



STATE OF WYOMING
DEPARTMENT OF ADMINISTRATION & INFORMATION
OFFICE OF CONSTRUCTION MANAGEMENT

**STATE CAPITOL REHABILITATION AND
RENOVATION / CAPITOL SQUARE PROJECT**

**SERIES 2 - WYOMING STATE CAPITOL
SD OWNER REVIEW**

LEVEL III SCHEMATIC DESIGN REPORT
VOLUME I OF III

ASSESSMENT AND RECOMMENDATIONS

December 19, 2014



IN ASSOCIATION WITH



AND





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Section 1 : Introduction

INTRODUCTION

This Level III Schematic Design Report is provided as part of the SD [Schematic Design] Owner Review package, which also includes the accompanying drawing set. These two elements are complementary and should be taken together as a whole, as parts of this report refer to the drawing set.

To more fully understand the scope of this report, the following items are highlighted in this introduction:

- Architectural and Historic Significance
- Goals of the Project
- Goals of the Schematic Design Report

The remainder of this report focuses on the details which have been identified by and further support the Design Team’s efforts.

Architectural and Historic Significance

The Wyoming State Capitol is a National Historic Landmark. The arrangement of the building, as it is seen today, was constructed in three phases. The first phase, comprising the central portion of the building that includes the rotunda and dome, was completed in 1888. The second phase of the building, comprising the additions on the east and west ends for the original House and Senate chambers, was completed in 1890. And, the final additions on the east and west ends, comprising the expanded House and Sentate chambers, was completed in 1917.

Over the course of this 29 year period, there were changes in construction practices that have implications for the restoration of the Capitol. These include the following:

- The 1888 section was constructed with clay and stone masonry load bearing walls, and floors were constructed with wood framing. The rotunda and dome were constructed with structural iron.
- Although the 1890 and 1888 sections were designed by the same architect, there are differences in the floor framing structure, where the 1890 section uses structural iron.
- The 1917 section utilizes clay and stone masonry load-bearing walls with structural steel framing and reinforced concrete.

Several modifications have taken place since the building was completed in 1917, however, the majority of these changes have not altered the exterior appearance of the building. The most significant changes occurred during the Hitchcock & Hitchcock [H&H] renovations conducted from 1973 through 1980.

During this period of extensive renovation, significant changes have occurred; historic building elements have been compromised and decorative elements have been obscured under layers of new finishes.

As part of the Level I Reconnaissance and Level II Feasibility Study, a program of selective exposures, discoveries, and probes has been proposed but has only been partially executed as of this report. Accordingly, there are still several unknowns that need to be addressed, including:

- The presence or absence of historic building elements and decorative finishes in several areas of the building. These include the rotunda, the monumental corridors and the House and Senate chambers, as well as offices in the 1888 and 1890 sections of the building.
- The layers of previous construction remaining in place that may be concealed by visible treatments. For example, in certain areas of the building, there may be another or possibly two additional ceilings hidden behind the visible ceiling.
- The actual space available for building infrastructure, such as heating, ventilation, and air conditioning; fire protection systems; plumbing; and electrical systems. To keep the project moving forward, some assumptions have been made that will be validated during subsequent phases of the project.

After careful consideration, the Design Team recommends that the period of significance for the building should be designated as somewhere within the period from 1917 through 1921, according to the findings presented in the Level I and Level II report.

Given the architectural and historic significance of the building, it is understood that the project will comply with *The Secretary of the Interior’s Standards for the Treatment of Historic Properties*.

Goals of the Project

Due to the visible deterioration and notable deficiencies of this historic building, the rehabilitation and renovation of the Wyoming Capitol has been a concern for the State of Wyoming for several years.

Primary concerns for the Capitol building are:

- Significant building code and critical life-safety deficiencies
- Inadequate facilities; the building has not been upgraded or renovated within the past thirty years; during the last renovation, which was completed in 1980, less than forty percent of the building was updated
- Failing, obsolete, and inadequate building service systems, including plumbing; electrical; heating, ventilation, and air conditioning; audio/visual; communications; and security
- Sub-standard work areas and space utilization, due to interim changes, which impair the open participation and engagement of the citizens in their state government process
- Limited accessibility for individuals with disabilities, severely limiting equal and dignified access and accommodation to both occupants and visitors, throughout the Capitol

This project was conceived and has been organized and undertaken to address all of these issues.

In addition, the State of Wyoming has made clear that the following items are priorities for the project:

- Determine accurate project costs and a reliable, transparent budgeting process
- Develop a sensible sequence of implementation and project schedule for the rehabilitation and restoration of the Capitol
- Consider phasing and potential project synergies
- Improve the user experience of the Capitol for both visitors and occupants
- Optimize the investment of the State while providing a modern Capitol building
- Maintain a safe, efficient, and dignified environment, respectful of Wyoming’s culture and traditions

The following items articulate the major goals of the project which result from the above criteria:

- A clear Scope of Work for the rehabilitation and restoration of the Capitol building and its site
- A logical sequence of implementation and project schedule
- A reliable, evidence-based budget

This report and the accompanying drawings represent the results of the first phase of design efforts to address the needs of the State while extending the life of the historic Wyoming Capitol.

Goals of the Schematic Design Report

The State of Wyoming requires that the Schematic Design deliverable includes a Schematic Design Report. The goals of this report are as follows:

- Capture the design and preservation assumptions made to-date by the Design Team, which will be reviewed by the Client and the Construction Manager At Risk [CMAR]
- Delineate both the known and the anticipated Scope of Work, to the fullest extent possible, enabling the Owner to make informed decisions and choices, and for the CMAR to develop a reliable construction cost estimate
- Provide a tool for the Project Team, including the Owner, the CMAR, and the Design Team, to track the Scope of Work during the Design Development and Construction Documentation phases that follow



Section 2 : Historic Evolution of Building & Site

2. Historic Evolution of Building & Site

2.1 BUILDING EVOLUTION

The Wyoming State Capitol was designed in two phases and constructed in three. Phases I and II resulted in a unified building that was enlarged in Phase III [Figure 2.1.3].

- Phase I (1888) - Construction of cruciform core including the Dome. (Architect: David Gibbs)
 - Structure is likely largely wood framing spanning to cast iron columns and masonry bearing walls. (Nancy to review.)
- Phase II (1890) - Construction of east and west wings for the original House and Senate Chambers, Committee Rooms, State Library, and offices for the Governor and State Officials. (Architect: David Gibbs)
 - Structure is concrete on corrugated metal arches on steel framing. (Nancy to review.)
- Phase III (1917) – Completion of current overall form of the building by construction of two additions to the east and west to provide larger House and Senate Chambers and additional office space. (Architect: William Dubois)
 - Structure is reinforced concrete slabs on steel framing. (Nancy to review.)
- Phase III Interior Finishes and Fit-out – The exact dates for this work are not available, but it is likely it occurred in the late 1910's through early 1920's after the Legislature appropriated funds.
- Miscellaneous Modifications (1913-80) These modifications included:
 - Addition of Treasurer's vault
 - Replacement of Dome staircase
 - Addition of passenger elevators
 - Miscellaneous modifications to the House and Senate Chambers
 - Partition modifications and additions
 - Replacement of gravity heating with steam
 - Installation of murals
 - Exterior repainting and multiple interior redecorating campaigns
 - Building systems upgrades
 - Addition of north fire escapes
 - Rehabilitation of windows
 - Creation of a below-grade boiler room
 - Electrical and lighting modifications

These modifications left much of the historic fabric substantially intact.

- Comprehensive Interior Rehabilitation (1973-80) – This work affected historic fabric more radically than previous modifications. (Architects: Hitchcock & Hitchcock)

- The work included:
 - Replacement of selected historic plaster and metal ceilings with acoustic tile or drywall ceilings
 - Addition of acoustic tile or drywall ceilings below selected historic plaster ceilings
 - Construction of false ceiling beams in selected locations
 - Application of acoustic tile to ceilings and walls in miscellaneous areas including the Chambers
 - Removal of historic interior bearing walls and consequent structural modifications
 - Addition of fan coil units and drapery boxes and modification of historic wood elements to accommodate
 - Modifications to and addition of non-structural partitions
 - Removal of historic transoms above doors
 - Closing of historic interior door openings and creation of new interior door openings
 - Replacement of historic wood flooring and sleepers with lightweight concrete topping in most of First through Third Floors
 - Addition of First Floor to Basement/Garden Level stairs in 1890 section, northwest
 - Addition of non-historic decorative elements
 - Change of floor finishes
 - Replacement of historic wood structure with steel structure in Monumental Corridor surrounding Monumental Stairs openings, first and second floors
 - Removal of balcony and insertion of third floor in former Supreme Court
 - Closing of three east windows, removal of three east offices, relocation of the dias and ornamental features and removal of east gallery in the House Chamber
 - Addition of under floor power/tele/data/voting ducts to serve desks in House and Senate Chambers
 - Relocation of former Supreme Court laylight and historic light fixture to Committee Room 302
 - Removal of the 1890 House and Senate Chambers' skylights
 - Replacement of most historic wood window sash with aluminum sash and covering of wood window frames with aluminum cladding
 - Construction of underground utility tunnel directly north and east of the Capitol



Figure 2.1.1: Historic Photograph of the Recently-Completed [Phase II] Capitol Building From the Southwest, ca. 1890.

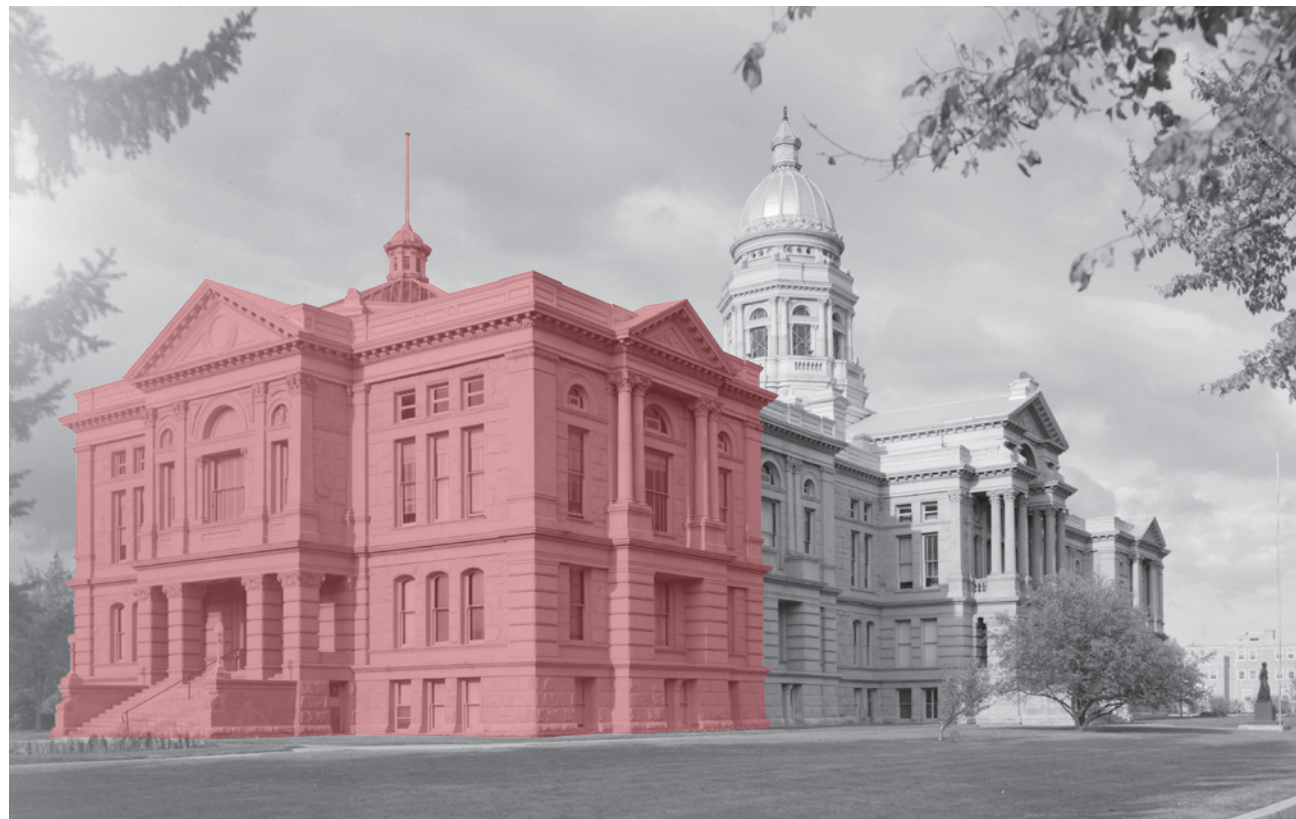


Figure 2.1.2: Similar View of the Capitol Building From the Southwest, ca. 1979. The highlighted area delineates the Phase III [1917] west wing. The Phase III additions had a significant impact on both the exterior and interior of the Capitol. Details can be found in Section 4.

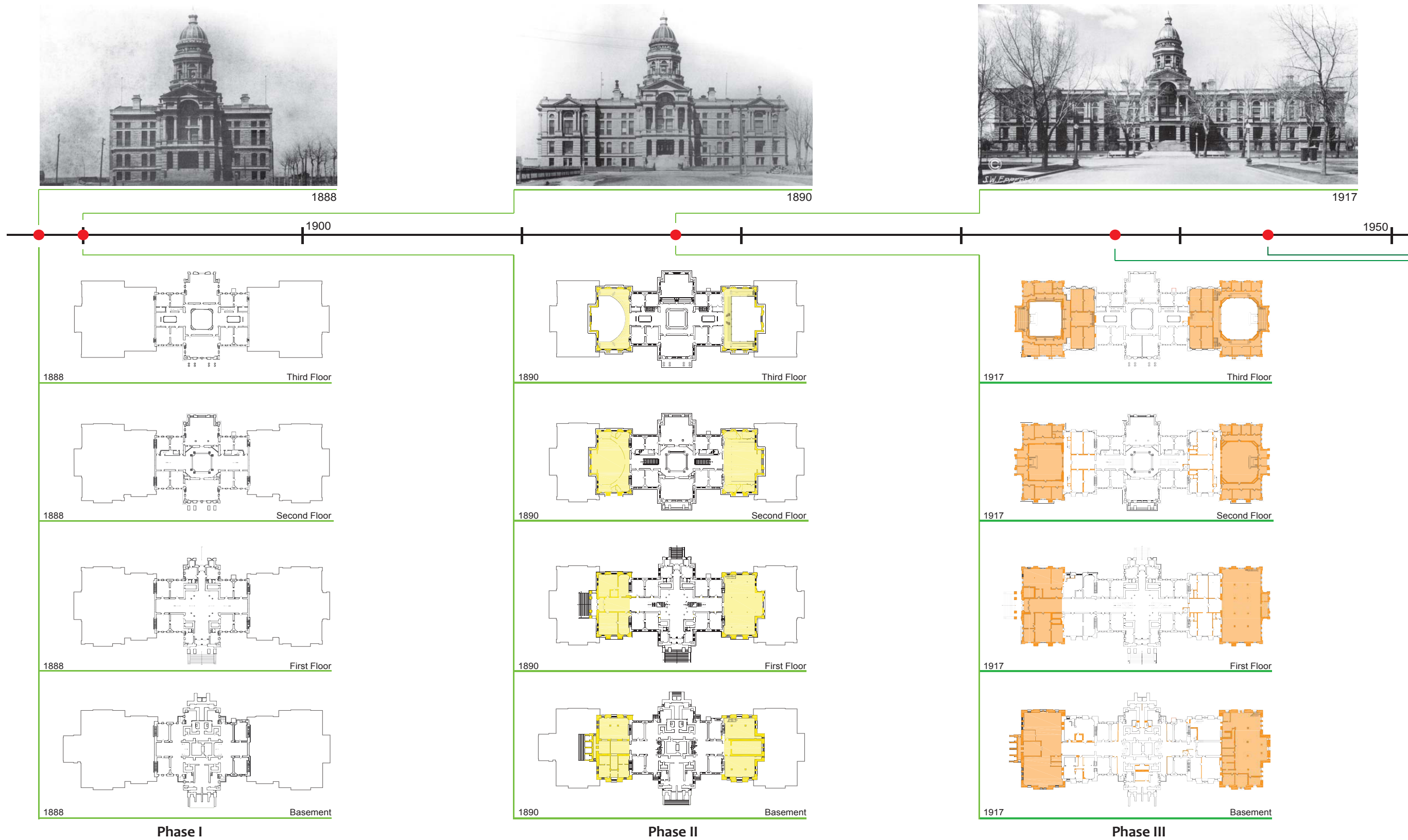


Figure 2.1.3: Evolution of the Capitol



- Construction of the Herschler Building (1983) – The Herschler building, constructed directly north, resulted in changes to the Capitol. (Architects: Kemper & Pappas)
 - Addition of a northern underground connection to the lowest level of the Capitol
 - Disassembly and reassembly of existing north exterior entrance stairs and cheek walls on new foundations [Figure 2.1.6]
 - Addition of new stairs and handicapped lift at Garden Level down to Connection to the Herschler.
- Masonry Preservation, Storm Drainage Repair and Building Lighting (1994) - (Architect: Banner) [Figure 2.1.5]
 - Removal of concrete and asphaltic materials from selected foundation walls
 - Addition of concrete facing on east, south and west stone foundation walls
 - Application of waterproofing to east, south and west foundation walls.
 - Selective masonry consolidant treatment, repointing, and patching on all stone exterior walls
 - Comprehensive masonry cleaning
 - Installation of new below grade storm drainage south of Capitol.
 - Installation of façade lighting at grade
- Comprehensive Roof Replacement (1999) – (Architect: HDH)
 - Removal and replacement of entire roof.
 - Removal and roofing-over of all historic skylights
 - Installation of steel deck with electric lights below over the House and Senate Chambers’ laylights.
 - Replacement of House and Senate Chambers’ cupolas with replicas.
 - Paint-stripping, repair and re-painting of the galvanized metal entablature, pediment and parapet walls.
 - Installation of Dome flood-lighting on roof.
- Installation of Lightning Protection (1999)
- Installation of Lighting for Dome and Building Façade on Roof and at Grade (2000)
- Construction of Lower Level North Entry Enclosures and Handicapped Ramp (2002) - (Engineer: Robert Clary)

- House and Senate Chambers Lighting and Skylight Renovations (2007) – (Architect: Glenn Garrett) [Figure 2.1.4]
 - Installation of skylights above House and Senate Chambers, including steel structure and aluminum skylight frame
 - Installation of perimeter catwalks and rolling scaffolds above House and Senate Chambers’ laylights
 - Installation of polycarbonate protection panels above House and Senate Chambers’ laylights
 - Installation of lighting in House and Senate Chambers
- Herschler Plaza Renovations (2010) – The plaza north of the Capitol was redesigned. (Architect: HDH)
 - Removal of north exterior entrance stairs
 - Relocation of stone cheekwalls
 - Construction of new landing outside north entrance
 - Construction of new North Entrance stairs and handicapped ramps

Reference Documents

Refer to [Figure 2.1.7 - Figure 2.1.9, Wyoming State Capitol: Historic Drawings, Specifications and Studies Utilized in Preparation of Schematic Design Documents.](#)

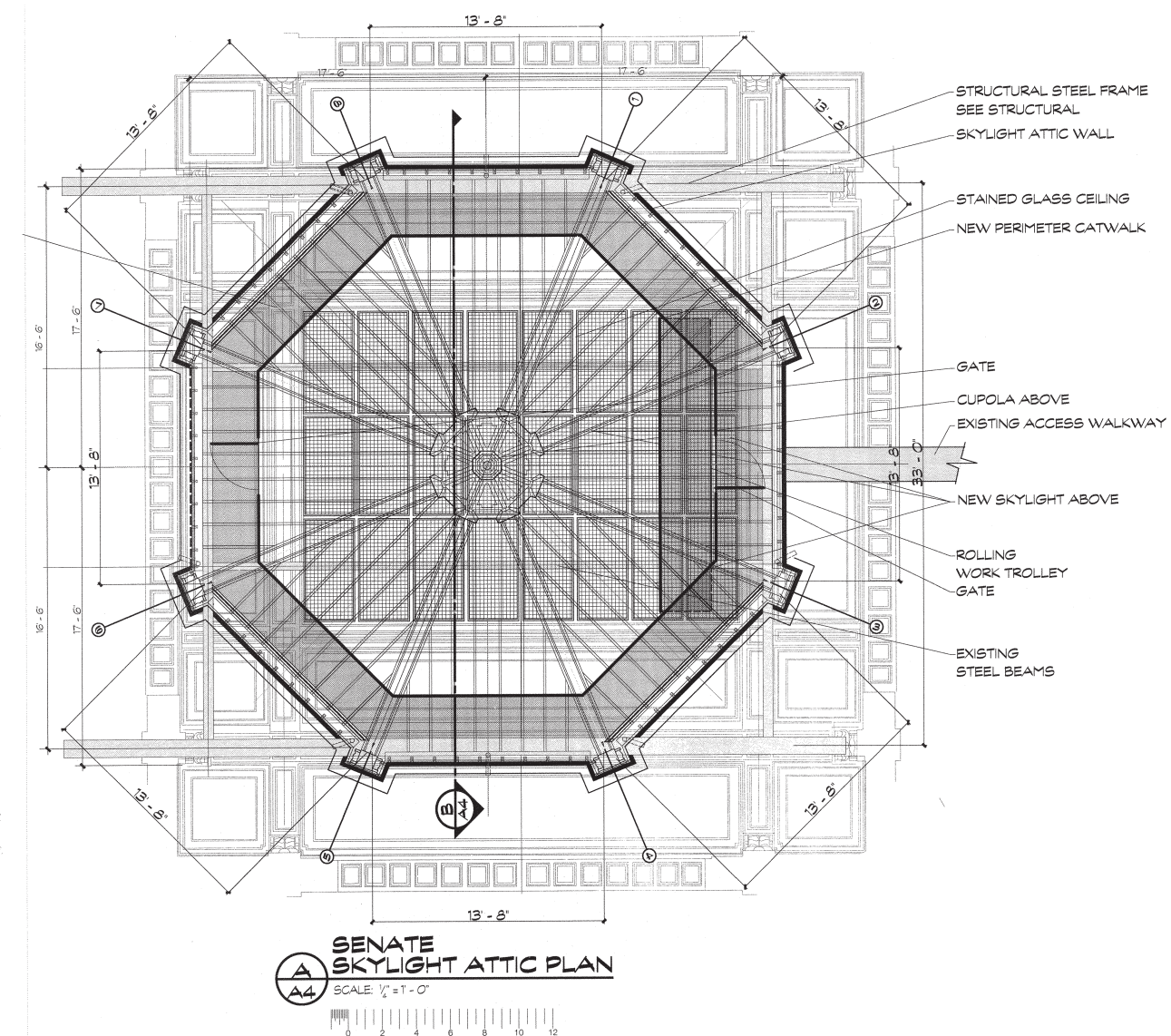


Figure 2.1.4: Detail from 2007 Chambers Lighting and Skylight Renovation



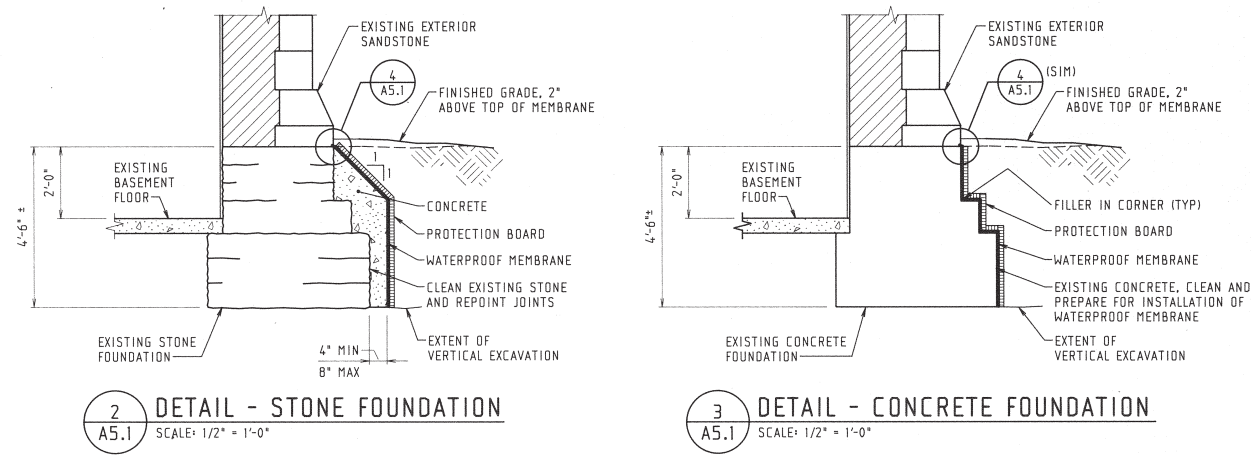


Figure 2.1.5: Detail from the 1994 Masonry Preservation, Storm Drainage Repair and Building Lighting



Figure 2.1.6: Disassembly and reassembly of existing north exterior entrance stairs. Note that extensive excavation of the north side of the Capitol was undertaken without staged underpinning.



Date of Issue	Author	Project Title	Content	Media	Comments
1886	D.W. Gibbs & Co. , Architects Toledo, Ohio	Specifications for the Erection and Completion of a Capital Building for Wyoming Territory to be located in Cheyenne.	Construction Drawings and Specifications	Print, linen	Phase I
1888	D.W. Gibbs & Co. , Architects Toledo, Ohio	Specifications for the Erection and Completion of the East and West Wings of The Capital Building for Territory of Wyoming Located in Cheyenne.	Construction Drawings and Specifications	Construction	Phase II, East and West Wings
ca. 1888	Unknown	Fuel Room Door and Frame, Wyoming State Capitol Building	Shop Drawing	Linen	Undated drawing
1890	Unknown	Plan of Capitol Grounds	Presentation Drawing	Paper	Plumbing and landscaping
1899	Unknown	Hot Water Heating Apparatus, Wyoming Capitol Building	Construction Drawings	Linen	Basement through Third Floor
ca. 1899	Unknown	Plan of Main Office of State Engineer, Wyoming State Capitol Building	Survey Drawing	Print	Undated drawing
1915	William DuBois, Architect Cheyenne, Wyoming	Wyoming Capitol Building	Presentation and Construction Drawings	Print, linen	Phase III, East and West Wings
1925	William DuBois, Architect Cheyenne, Wyoming	New Vault for State Treasurer's Office, Wyoming State Capitol Building	Construction Drawings	Linen	Basement and First Floor
1925	The Midwest Steel and Iron Works Denver Colorado	Dome Stair, Wyoming Capitol Building	Shop Drawings	Print	First to fourth landing, wire guard
1928	Unknown	Existing Conditions Plans, Wyoming Capitol Building	Record Drawings	Print, linen	Basement though Third Floor
1932	Frederic Hutchinson Porter, Architect Cheyenne, Wyoming	Interior Redecorating, Wyoming State Capitol Building	Construction Drawings	Linen	Basement though Third Floor
1934	S[aco] R[ienk] de Boer, Landscape Architect Cheyenne, Wyoming	Plan for Capitol Grounds, Wyoming State Capitol	Construction Drawings	Print	Includes pool details
1934	Unknown	Lawn Irrigation, Wyoming State Capitol Grounds	Construction Drawing	Print	Includes water main and control valve details
1934	Hendrie and Bolthoff Denver Colorado	Installation Plan of Thompson Sprinkling System, Wyoming State Capitol Grounds	Shop Drawing	Print	
1934	Irvin J. McCrary, Landscape Architect Denver, Colorado	Planting Plan for Capitol Grounds, Wyoming State Capitol	Construction Drawing	Design Drawing	Includes water main connections
ca. 1935	ca. 1935	Proposed Landscape Development Plan, Wyoming State Capitol Grounds	Presentation Drawing	Original	Undated drawing
ca. 1935	ca. 1935	Concrete Sidewalk, Curbs, Benches, Wyoming State Capitol Grounds	Construction Drawing	Linen	Undated drawing
1937	Unknown	Existing Conditions Plans, Wyoming Capitol Building	Record Drawings	Linen	Basement though Third Floor, some drawings damaged
1937	Frederic Hutchinson Porter, Architect Cheyenne, Wyoming	Alterations to East Wing State Capitol for Highway Department	Construction Drawings	Linen	Basement and First Floor
1939	William DuBois, Architect Cheyenne, Wyoming	New Passenger Elevator, Wyoming State Capitol Building	Construction Drawing	Print	
1940	Frederic Hutchinson Porter, AIA R. Walter Bradley, Associate Cheyenne, Wyoming	Preliminary Study, Additions to the Wyoming State Capitol	Study Drawings	Linen	Basement though Third Floor
1949	Frederic Hutchinson Porter, AIA R. Walter Bradley, Associate Cheyenne, Wyoming	East and West Wing Painting Survey, Wyoming State Capitol	Survey Drawings	Print	Copies of 1925 DuBois drawings

Figure 2.1.7: Wyoming State Capitol: Historic Drawings, Specification and Studies Utilized in Preparation of Schematic Design Documents



Date of Issue	Author	Project Title	Content	Media	Comments
1950	Frederic Hutchinson Porter, AIA R. Walter Bradley, Associate Cheyenne, Wyoming	House and Senate Chamber Redecoration, Wyoming State Capitol	Construction Drawings	Print	Work indicated on Second and Third Floors only
1952	Porter and Bradley Architects Cheyenne, Wyoming	Remodeling of Wyoming State Capitol, Land Office and Education Department	Construction Drawings	Print	Basement and First Floor, East Wing
1963	Unknown	Lawn Irrigation, Wyoming State Capitol Grounds	Construction Drawing	Print, linen	Revision of 1934 drawings
1968	Otis Elevator Company, Engineering Division	Elevator Controller, Wyoming State Capitol Building	Shop Drawings	Print	21 AUV Controller
1973	Hitchcock & Hitchcock Architects Laramie, Wyoming	Alterations to the Wyoming Capitol Building	Study Drawings	Print	House Chambers, Second Floor, East Wing
ca. 1973	Unknown	Basement Floor Plan, East Wing, Wyoming State Capitol Building	Survey Drawings	Print	Undated drawings
1974	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase I Alterations to Wyoming Capitol Building	Study and Construction Drawings	Print	House Chambers and LSO, Second and Third Floor, East Wing
1975	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase I Alterations to Wyoming Capitol Building	Study Drawings	Print	House and Senate Chambers and LSO, Second and Third Floor, East and West Wings
1975	Hitchcock & Hitchcock Architects Laramie, Wyoming	Steam and Walk-Thru Tunnel, Wyoming State Capitol	Construction Drawings	Print	Connection to Supreme Court and other buildings
ca. 1975	Hitchcock & Hitchcock Architects Laramie, Wyoming	Electrical Drawings	Construction Drawings	Print	Basement through Third Floor, undated drawings
1976	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase I-A Alterations to the Capitol Building	Construction Drawings	Print	Senate Chambers modifications
1976	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase I-B Alterations to the Capitol Building	Construction Drawings	Print	Governor's Suite modifications
1976	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase I-C Alterations to the Capitol Building	Construction Drawings	Print	Electrical and mechanical modifications
1976	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase I-D Alterations to the Capitol Building	Construction Drawings	Print	Parking lot slab Replacement
1976	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase I-E Alterations to the Capitol Building	Construction Drawings	Print	East Rotunda Stair modifications
1976	Hitchcock & Hitchcock Architects Laramie, Wyoming	Steam and Walk-Thru Tunnel Revisions, Wyoming State Capitol	Construction Drawings	Print	Added chilled water piping and Pump P-2
1977	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase II-B Alterations to Wyoming Capitol Building	Construction Drawings	Print	General modifications
1977	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase II-C Alterations to Wyoming Capitol Building	Construction Drawings	Print	Secretary of State's Suite modifications
1978	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase IV-A Alterations to Wyoming Capitol Building	Construction Drawings	Print	Auditor's Suite and sound system modifications
1978	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase IV-C Alterations to Wyoming Capitol Building	Construction Drawings	Print	Treasurer's Suite modifications
1978	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase IV-D Alterations to Wyoming Capitol Building	Construction Drawings	Print	General modifications
1979	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase V-B Alterations to Wyoming Capitol Building	Construction Drawings	Print	Basement modifications
1980	Hitchcock & Hitchcock Architects Laramie, Wyoming	Phase VI-A Alterations to Wyoming Capitol Building	Construction Drawings	Print	Attorney General's Suite modifications
1989	David Ohde & Associates Cheyenne, Wyoming	State Capitol Irrigation System	Construction and As-Built Drawings	Print	
1994	Banner Associates, Inc. Consulting Engineers and Architects Laramie, Wyoming	Wyoming State Capitol Building Preservation Projects	Construction Drawings	Print	Masonry preservation, storm drainage repair, building lighting

Figure 2.1.8: Wyoming State Capitol: Historic Drawings, Specification and Studies Utilized in Preparation of Schematic Design Documents



Date of Issue	Author	Project Title	Content	Media	Comments
1997	McFall, Konkel & Kimbell Consulting Engineers Cheyenne, Wyoming	Capitol Building Complex State Of Wyoming Chilled Water Upgrade	Construction Drawings, Specifications	Print	Connection to Supreme Court and other buildings
ca. 1998	Swift-Structures and Architecture Laramie, Wyoming	Dome Analysis, Wyoming State Capitol Building	Study Drawing	Print	Undated drawing
1999	B&W Glass, Inc.	Dome Window Replacement	Shop Drawing	Print	
1999	Unknown	Governor's Suite modifications	Study Drawing (?)	CAD	
1999	HDH Architecture Engineering Environmental Salem, Virginia	Roof Replacement, Exterior Renovations and Repairs, Wyoming State Capitol Building	Construction Drawings, Specifications, Shop Drawing	Print	Includes skylights and roof lighting
2000	HDH Architecture Engineering Environmental Salem, Virginia	Transient Voltage Surge Suppression, Wyoming State Capitol Building	Construction Drawing	Print	
2000	Unknown	Governor's Suite modifications	Study Drawing (?)	CAD	
2000	Kim Lighting City of Industry, California	Wyoming Sate Capitol Dome	Study Drawing	Print	
2001	Unknown	Existing Conditions Plans, Wyoming Capitol Building	Record Drawings	CAD	
2002	Unknown	Ceiling Modifications, Wyoming Capitol Building	Construction Drawing	Print	Basement through Third Floor
2002	Robert D. Clary, PE, PC Cheyenne, Wyoming	Capitol North Entry Enclosure, West Entry w/Ramp	Construction Drawings	Print	
2003	Unknown	Wyoming Capitol Grounds Site Plan	Record Drawing	CAD	
2006	Glen E. Garrett AIA Cheyenne, Wyoming	Legislative Chambers Lighting and Skylight Renovation, Wyoming State Capitol Building	Construction and Shop Drawings, Specifications	Print	
2008	Unknown	Vicinity Plan, Wyoming State Capitol	Record Drawing	CAD	

Figure 2.1.9: Wyoming State Capitol: Historic Drawings, Specification and Studies Utilized in Preparation of Schematic Design Documents



8. Significance

Period	Areas of Significance—Check and justify below				
___ prehistoric	___ archeology-prehistoric	___ community planning	___ landscape architecture	___ religion	
___ 1400–1499	___ archeology-historic	___ conservation	___ law	___ science	
___ 1500–1599	___ agriculture	___ economics	___ literature	___ sculpture	
___ 1600–1699	<input checked="" type="checkbox"/> architecture	___ education	___ military	___ social/	
___ 1700–1799	___ art	___ engineering	___ music	___ humanitarian	
<input checked="" type="checkbox"/> 1800–1899	___ commerce	___ exploration/settlement	___ philosophy	___ theater	
<input checked="" type="checkbox"/> 1900–	___ communications	___ industry	<input checked="" type="checkbox"/> politics/government	___ transportation	
		___ invention		___ other (specify)	

Specific dates	1886–present	Builder/Architect	David W. Gibbs & William Dubois
Statement of Significance (in one paragraph)		Builders:	Adam Feick & Bro. (1886–88) Moses B. Keefe (1888–90) John W. Howard (1915–17)

CRITERIA OF SIGNIFICANCE

The Wyoming State Capitol is of national significance in the history of our nation in politics/government under criteria (A). It "is associated with events that have made a significant contribution to and are identified with, or that outstandingly represent, the broad patterns of United States history and from which an understanding and appreciation of those patterns may be gained"; and (3) "that represent some great ideal of the American people." The capitol building is of regional significance under criterion (B), as it embodies the "distinguishing characteristics" of an architectural type that represents a significant, distinctive, and exceptional entity.

STATEMENT OF HISTORICAL SIGNIFICANCE

Wyoming was at the forefront of the women's suffrage movement in this nation. The first victory for women's suffrage in the United States occurred in the Territory of Wyoming. With admission to the Union, Wyoming became the first state to enfranchise women. Esther Morris, who had heard Susan B. Anthony lecture in Illinois prior to moving to Wyoming, became a force behind the effort and personally lobbied, with the aid of legislators' wives, members of the territorial council. In 1869 a bill granting suffrage to women in the Wyoming territory passed by a vote of 6 to 2 in the council and 6 to 4 in the lower house. Arguments of the disastrous results of allowing women to vote were refuted by the 1870 Wyoming elections which went smoothly with women adding a element of dignity to the voting procedures.

Wyoming's initiative with political equality for women gained national attention in 1889 when Wyoming applied for admission to the Union. Since Wyoming was expected to add strength to the Republican Party, Democrats opposed the admission on the grounds that admitting a full suffrage state would encourage other states to extend the vote to women. As heated arguments ensued in Washington over Wyoming's policy of women's suffrage and as chances for achieving statehood seemed in question, Joseph M. Carey, the territorial delegate in Washington, telegraphed the Wyoming legislature that women's suffrage may have to be abandoned to gain statehood. The legislature responded: "We will remain out of the Union a hundred years rather than come in without the women."⁵

In 1890 the U.S. Congress finally voted for Wyoming's statehood, but the controversial provision for women's suffrage resulted in a close vote in the House with 139 in favor and 127 opposing. Utah and Colorado soon followed Wyoming's lead and granted women the vote. Although it would be several decades before the list of women's suffrage states would grow significantly, the issue gained national attention and became widely discussed. Between 1870 and 1910, there were 480 separate initiatives in 33 states to amend state constitutions to grant women the vote. The fear that Wyoming's provision for women's suffrage would start a trend did prove to be the case.

2.3 PERIOD OF SIGNIFICANCE

A crucial determinant of the appropriate approach to rehabilitation and restoration of a National Historic Landmark is understanding the building's evolution, as this information indicates the likely presence or loss of original historic fabric.

A second determinant is the *Period of Significance*, "a determination of the span of time during which significant events and activities occurred [in or around the building or structure]."¹

The Wyoming State Capitol was designated a National Historic Landmark based on the following:

1. The Capitol is of national significance in that it "is associated with events that have made a significant contribution to and are identified with, or that outstandingly represent, the broad patterns of the United States history and from which an understanding and appreciation of those patterns may be gained"² and "that represent some great ideal of the American people."³ The building's National Register nomination emphasizes the role of the state of Wyoming on the forefront of the women's suffrage movement in the late 1880's into the 1900's. Significant events in that role were:
 - 1870 – Wyoming appoints the United States' first woman judge
 - 1869 - Women granted the right to vote by the Wyoming Territorial Council
 - 1890 – Upon achieving statehood Wyoming becomes the first state to grant women political equality with men bringing the issue of women's suffrage to national attention and thus contributing to the eventual enfranchisement of women throughout the United States.
 - 1924 - Wyoming elects the nation's first female governor in 1924.
 - Additionally, the building itself is of regional significance "as it embodies the 'distinguishing characteristics' of an architectural type that represent a significant, distinctive, and exceptional entity."⁴ Also, "the history of the building is also concomitant with that of the state."⁵

Consequently, the *Period of Significance for the Wyoming State Capitol is from its initial construction through the early 1920's, the time of substantial completion, when both the interior and exterior were complete.*

1 Eleanor O'Donnell. National Historic Register Bulletin: Researching A Historic Property. United States. National Park Service. National Register, History and Education. National Register of Historic Places, 1998.
2 National Register of Historic Places. Nomination Form. Wyoming State Capitol and Grounds, Cheyenne, Wyoming. 29 Jan1973.
3 ibid
4 ibid
5 ibid

The *Period of Significance* for the Wyoming State Capitol provides the direction in determining the final appearance of the building after rehabilitation and restoration. This direction should be followed as closely as possible.

Figure 2.3.1: Statement of Historical Significance from the 1987 National Register Nomination Form



2.4 GOALS OF THE PROJECT

2.4.1 Goals

The goals of the **Rehabilitation and Restoration of the Wyoming State Capitol** are three:

- Address critical life safety and building infrastructure issues
- Provide proper space for the public to participate in the business of government
- Repair and restore this National Historic Landmark, extending the life expectancy of the building for at least 30 years

2.4.2 Approach

The following approach to achieving these goals is proposed:

Exterior -

- Dome:
 - Repair sheet metal and supporting structure
 - Re-gild
- Roof:
 - Replace with new copper roof detailed appropriate to period and slopes
 - Provide personnel tie-offs for maintenance
 - Reconstruct skylights above the Monumental Stairs
 - Provide automatic hatch doors for smoke exhaust
- Exterior Walls:
 - Repair galvanized sheet metal parapets/entablature.
 - Repair masonry
- At entrances:
 - Reconstruct steps at First Floor North and South. Repair historic exterior doors
 - Repair steps at First Floor West.
 - Provide new steps and ramps at Garden Level 1888 entrances
 - Replace Garden Level exterior doors in 1888 section and below West entrance steps
 - Close Garden Level Phase 1917 entrances with windows on East and West Elevations
- Windows:
 - Replace aluminum sash with new double-glazed wood sash to match historic sash profiles
 - Repair extant historic sash

- Remove cladding from historic window frames and repair
- Paint exteriors of all frames and sashes
- Finish interior frames and sashes to match existing historic interior wood
- Foundations:
 - Provide foundation waterproofing, West, East and South elevations

Interior

- Historic Fabric and Finishes:
 - Repair and restore existing historic fabric and finishes
 - Reconstruct missing historic fabric as practical
- Locate ‘Service Cores’ in north 1890 section (location of former 1890 Chambers) on every floor for:
 - restrooms
 - vertical transportation
 - building systems (electric/tele/data closets, standpipes, ductwork)
- Reorganize offices in Garden Level and First Floor 1917 Sections
- Accommodate horizontal runs of building systems:
 - below original ceilings and above new ceilings minimally lower than the original ceiling heights and in minimum-size soffits
 - on the Garden Level below an access floor above a depressed slab and in trenches.
- Accommodate vertical risers of building systems in:
 - the locations of historic heating chases, mostly at 1888/1890 interface
 - in new building Cores
- Provide finishes, fixtures, furnishings and equipment appropriate to the building’s character.

Structural Systems

- Provide structural modifications to meet code and user needs and accommodate new building systems

Building Systems

- Provide new systems to meet current codes and user needs, concealing contemporary elements as much as possible:
 - interior and exterior lighting for security and user needs
 - mechanical
 - electrical
 - plumbing
 - tele/data

- fire protection
- audio/visual
- security
- specialty systems for House and Senate Chambers
- acoustic controls



Section 3: Preservation Zones



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3.1 PRESERVATION ZONES

A series of “preservation zones” have been identified to guide the design approach to the building. These are based upon:

- The evolution of the Capitol building and its period of significance, and
- *The Secretary of the Interior’s Standards for the Treatment of Historic Properties: with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*, by Kay D. Weeks and Anne E. Grimmer, U.S. Department of the Interior

The Secretary of the Interior’s Standards identify the four types of treatments that may be applied to a given historic property, and the standards and guidelines for each type. In the order of treatments, from least destructive to most destructive, the types are:

1. **Preservation** “is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property.”
2. **Rehabilitation** “is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.”
3. **Restoration** “is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.”
4. **Reconstruction** “is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving [...] structure [...] for the purpose of replicating its appearance at a specific period of time and in its historic location.”

Using these four treatments as a guide, the Design Team identified four different kinds of zones within the Capitol building, regarding treatment of historic features. Three of these zones are derived from The Secretary of the Interior’s Standards, while the fourth zone involves renovation of portions of the building containing no historic features from the priod of significance. The descriptions of the four zones are as follows:

Preservation Zone 1 (PZ1): Restoration

The spaces within this zone will have a Restoration treatment applied, returning the finishes within this zone to those found during the period of significance, identified as 1921.

This zone includes the following interior spaces, considered monumental:

- the Rotunda
- the main corridors on the First Floor and the main corridors within the 1888 portion of the building on the Second and Third Floors

- the stairs within the 1888 portion of the building, connecting all occupied floors
- the chambers for both the House of Representatives and the Senate
- the Committee Room on the south side of the Second Floor

These spaces remain largely intact and retain a significant portion of their historic character. Accordingly, these spaces can be restored to the period of significance, based on historical evidence, rather than conjecture.

This zone also includes the entirety of the building’s exterior stone work and the decorative metal finishes comprising the dome. The exterior windows and doors, and the roof, are not included

Preservation Zone 2 (PZ2): Preservation

The spaces within this zone will have a Preservation treatment applied, retaining the existing historic elements and finishes. Non-historic elements and finishes will be removed to ensure continuity of the historic character within these spaces.

This zone includes the following the following interior spaces:

- Office suites on the First Floor
- Conference and meeting rooms
- Committee rooms not included as part of Preservation Zone 1

Many of these spaces have been the subject of significant change during the life of the building, much of which appears to have occurred during the numerous reovations conducted from 1974 through 1980.

This zone also includes the entirety of the building’s exterior windows and doors, and the majority of the main roof finishes.

Preservation Zone 3 (PZ3): Rehabilitation

The spaces within this zone will have a Rehabilitation treatment applied, where the historic character of the building will be retained, to the greatest extent possible, while adapting the use of the spaces to suit the current functional needs of the State.

This zone includes the following interior spaces:

- The new Garden Level transition into the underground connector to the Herschler building
- Programmed Garden Level office suites
- New restroom and elevator cores on the Garden Level, First, Second, and Third Floors
- The interior spaces within the dome

The spaces within this zone either have never had any elements or finishes considered to be historic or are in portions of the building that were

significantly modified prior to or since the period of significance, and therefore have no historic context in that regard. However, within the spaces in this zone where historic elements have been identified, such elements will be retained where they maintain the building’s character without adversely affecting the new use of the space.

This zone also includes select portions of the roof envelope to be used as part of the building’s new smoke evacuation system.

Preservation Zone 4 (PZ3): Renovation

The spaces within this zone contain no historic character and will not have any historic treatments applied. However, the elements and finishes within this zone, where visible to visitors or in routinely occupied spaces, will be adapted in a manner so as to be respectful of the building’s historic significance.

This zone includes the following interior spaces:

- Garden Level mechanical spaces
- The entirety of the main Attic space not accessible to the public, such as the historic stairwells, and excluding the laylights at the chambers of the House of Representatives and the Senate, and the laylights being restored above the monumental stairs within the 1888 portion of the building.

The spaces within this zone are exclusively back-of-house areas for building service systems and are not accessible to visitors nor are they routinely occupied. There will be no attempt to recreate any historic character where none has existed nor create an interpretive reconstruction of any such elements or finishes.

These preservation zones are depicted on the floor plans and exterior elevations of the building that follow this narrative.



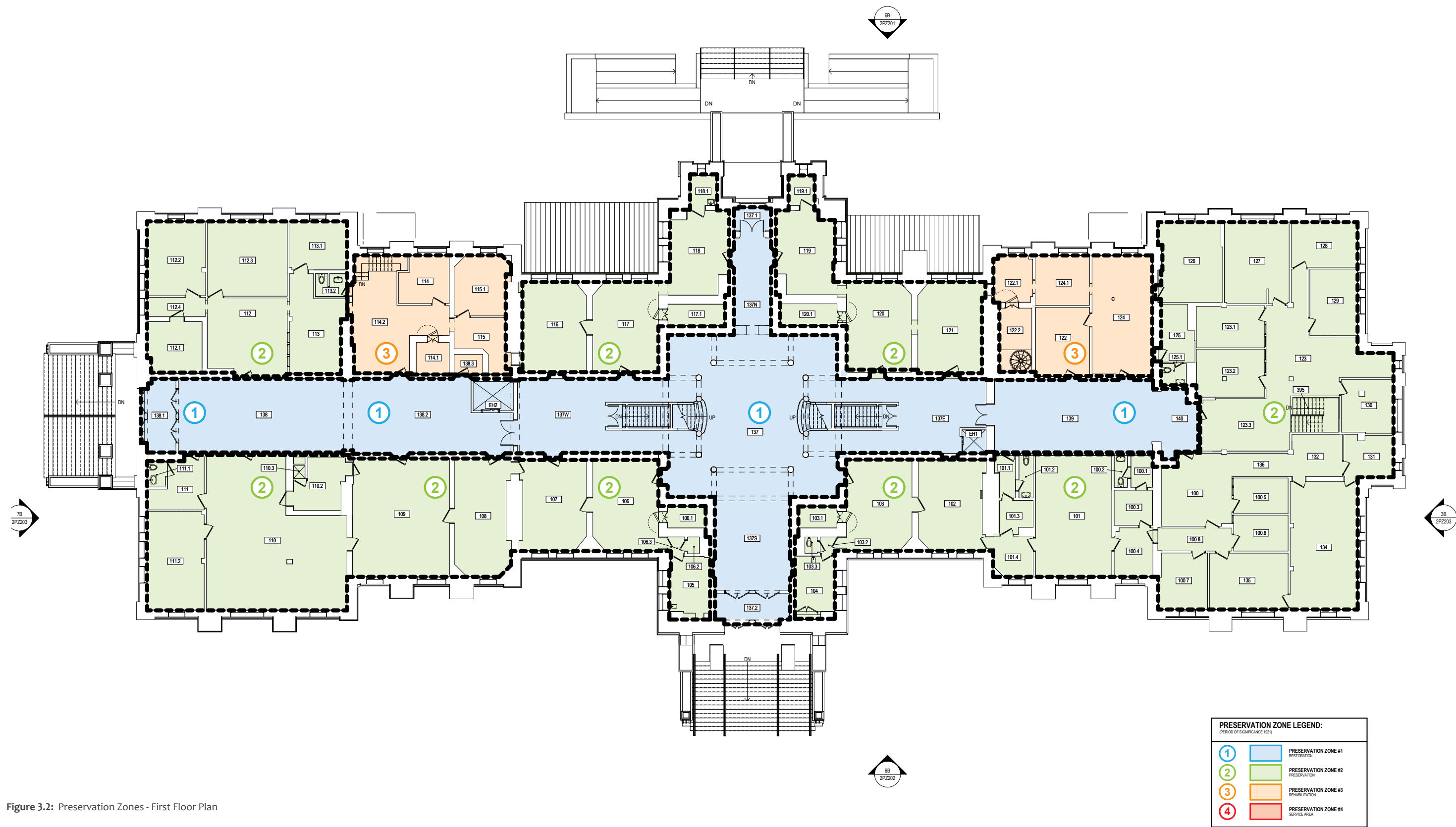


Figure 3.2: Preservation Zones - First Floor Plan



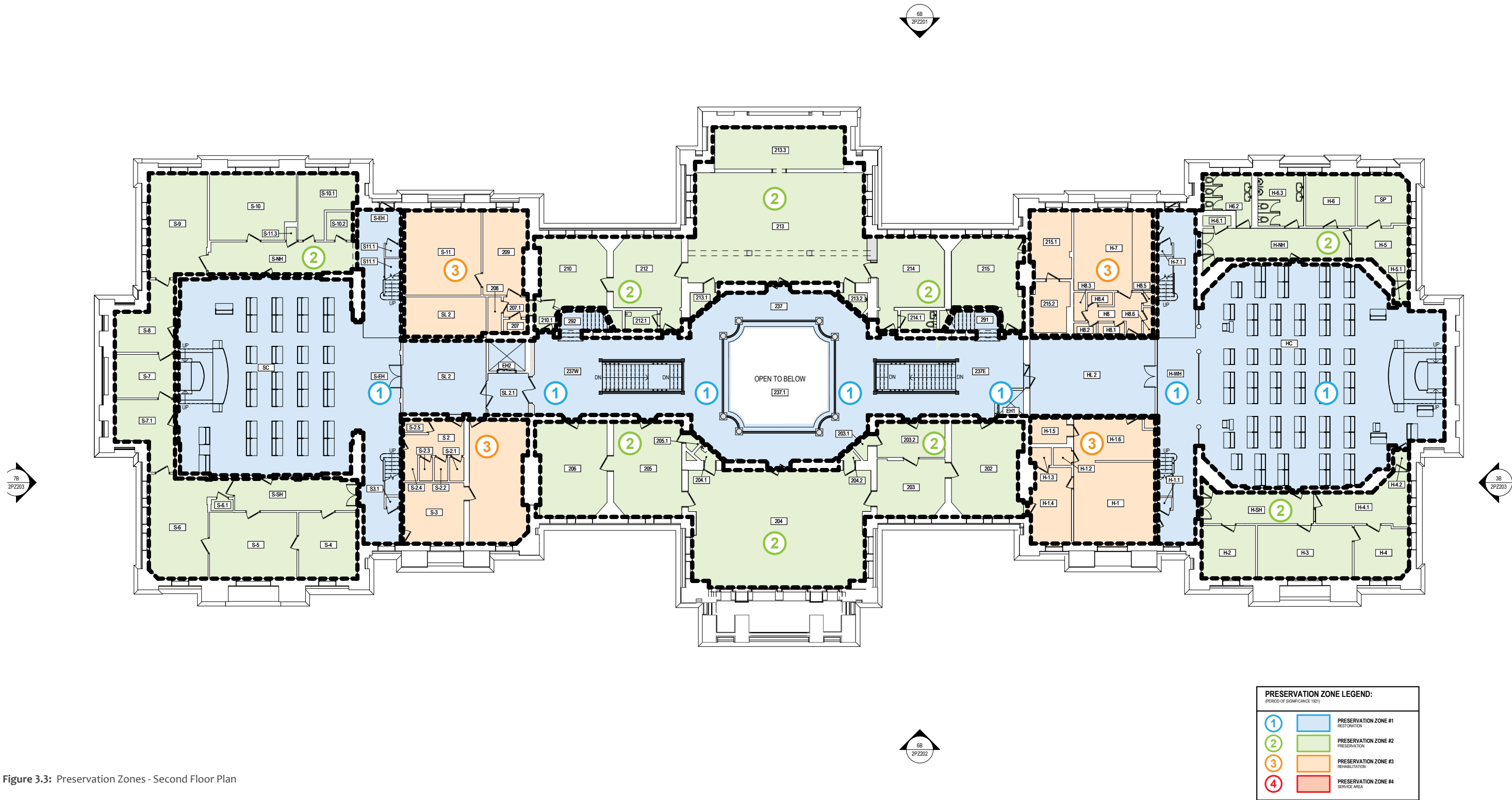


Figure 3.3: Preservation Zones - Second Floor Plan



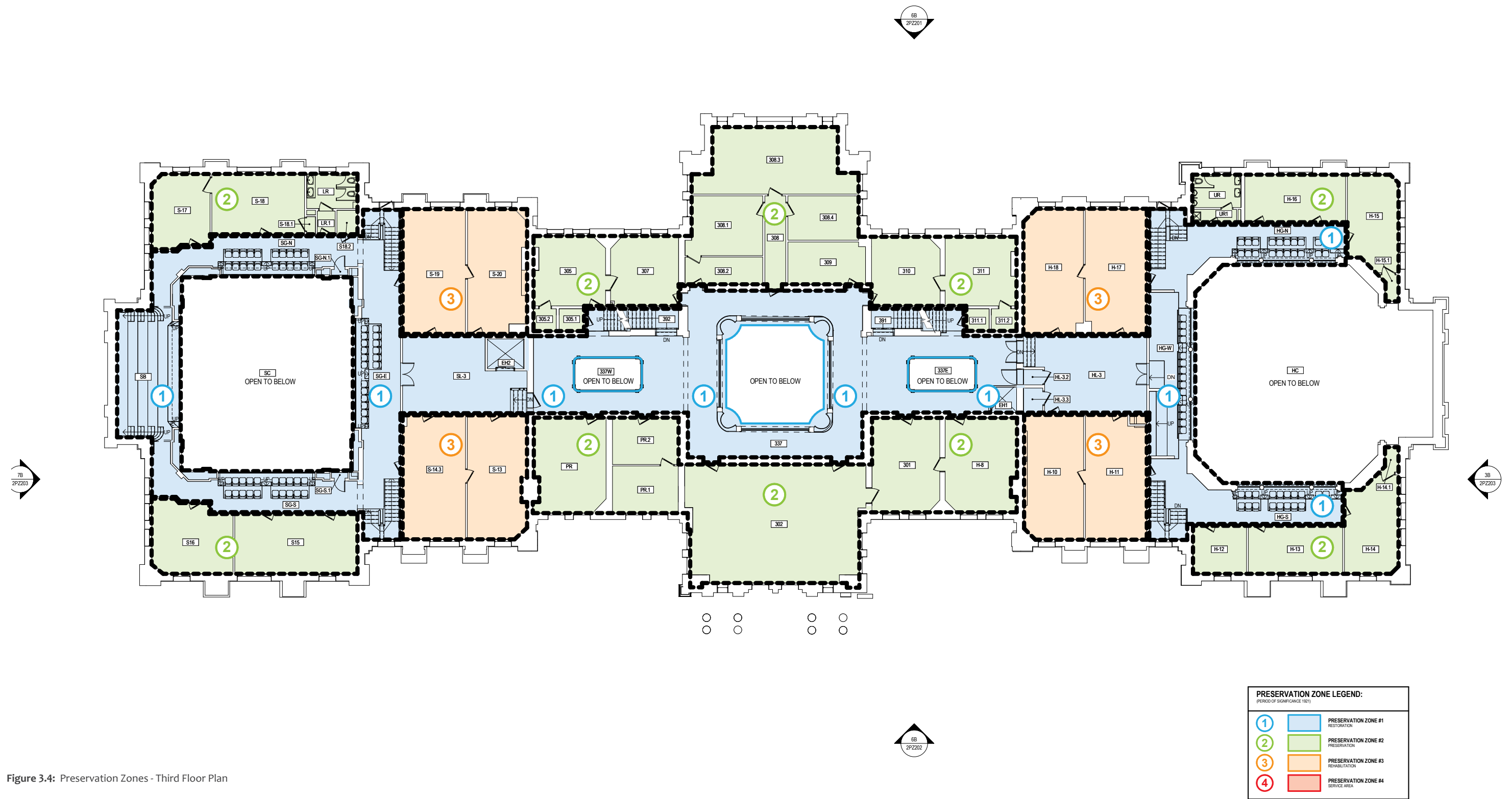


Figure 3.4: Preservation Zones - Third Floor Plan

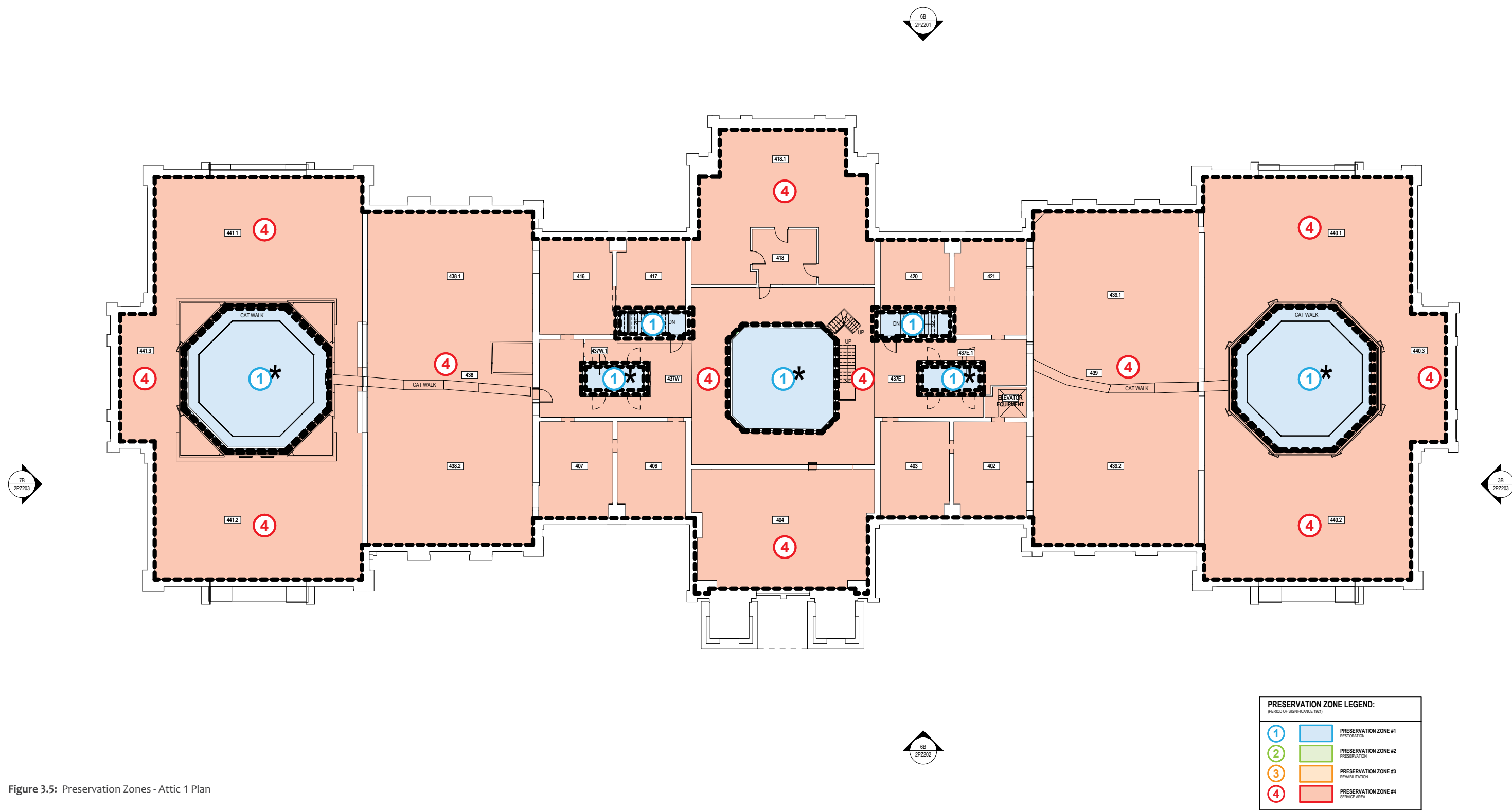


Figure 3.5: Preservation Zones - Attic 1 Plan



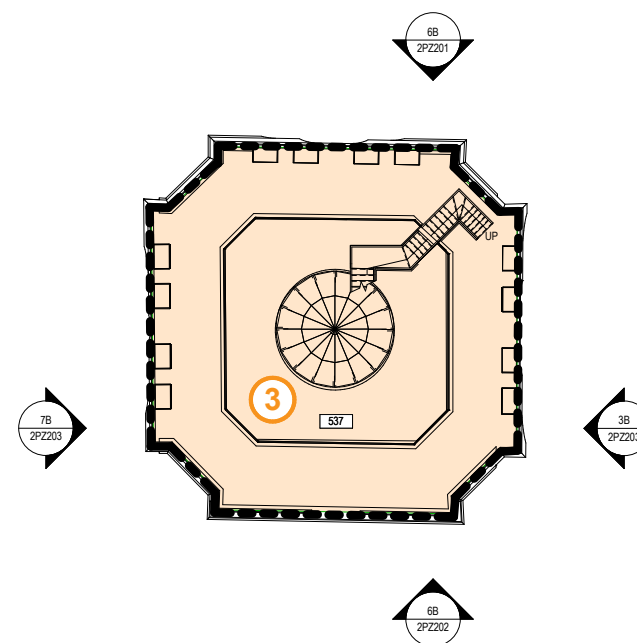
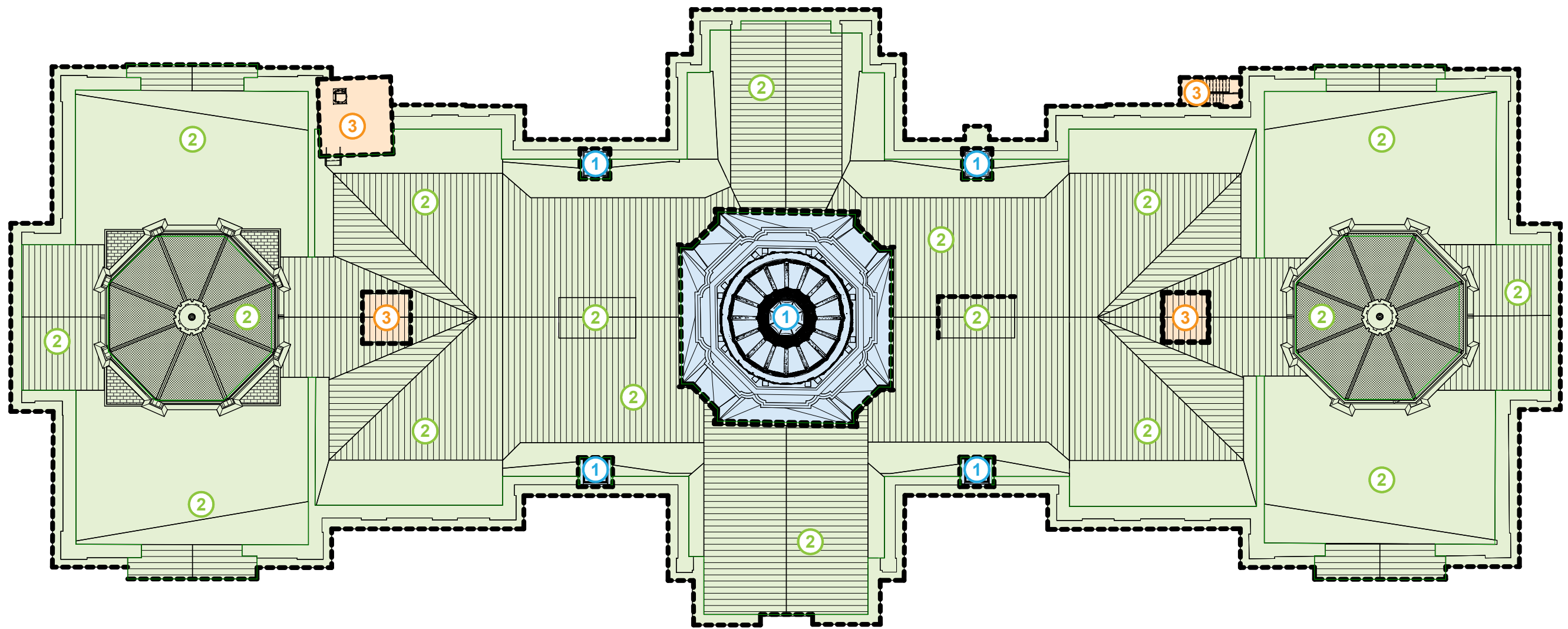


Figure 3.6: Preservation Zones - Attic 2 Plan

PRESERVATION ZONE LEGEND: (PERIOD OF SIGNIFICANCE 1971)		
1	PRESERVATION ZONE #1 RESTORATION	
2	PRESERVATION ZONE #2 PRESERVATION	
3	PRESERVATION ZONE #3 REHABILITATION	
4	PRESERVATION ZONE #4 SERVICE AREA	



PRESERVATION ZONE LEGEND: (PERIOD OF SIGNIFICANCE 1901)	
①	PRESERVATION ZONE #1 RESTORATION
②	PRESERVATION ZONE #2 PRESERVATION
③	PRESERVATION ZONE #3 REHABILITATION
④	PRESERVATION ZONE #4 SERVICE AREA

Figure 3.7: Preservation Zones - Roof Plan



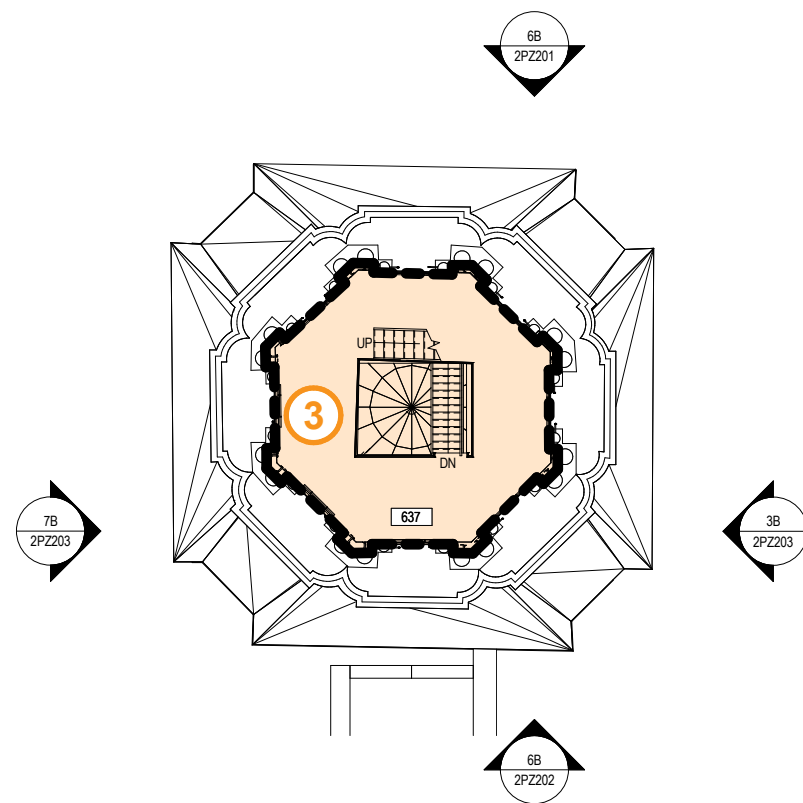


Figure 3.8: Preservation Zones - Dome 1 Plan

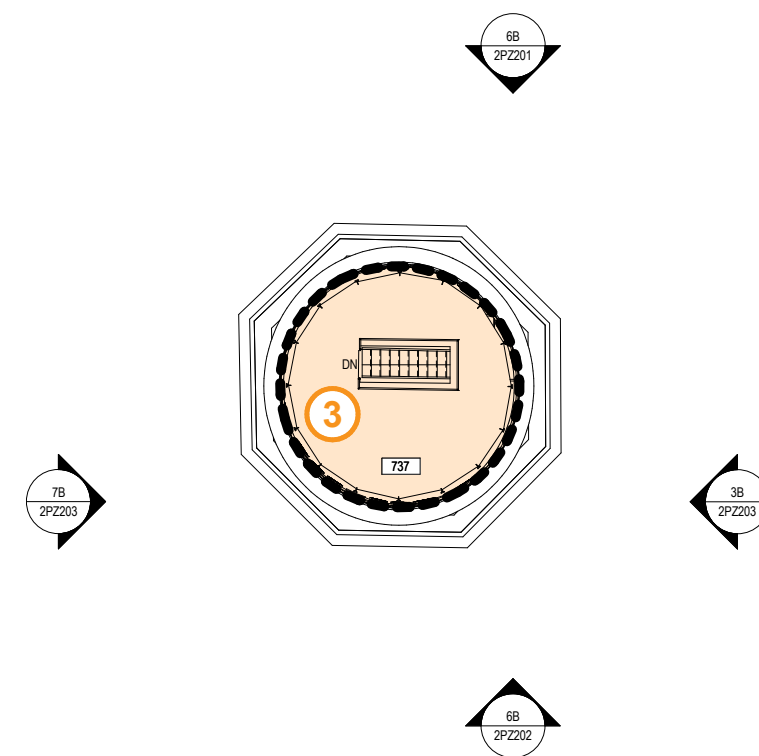
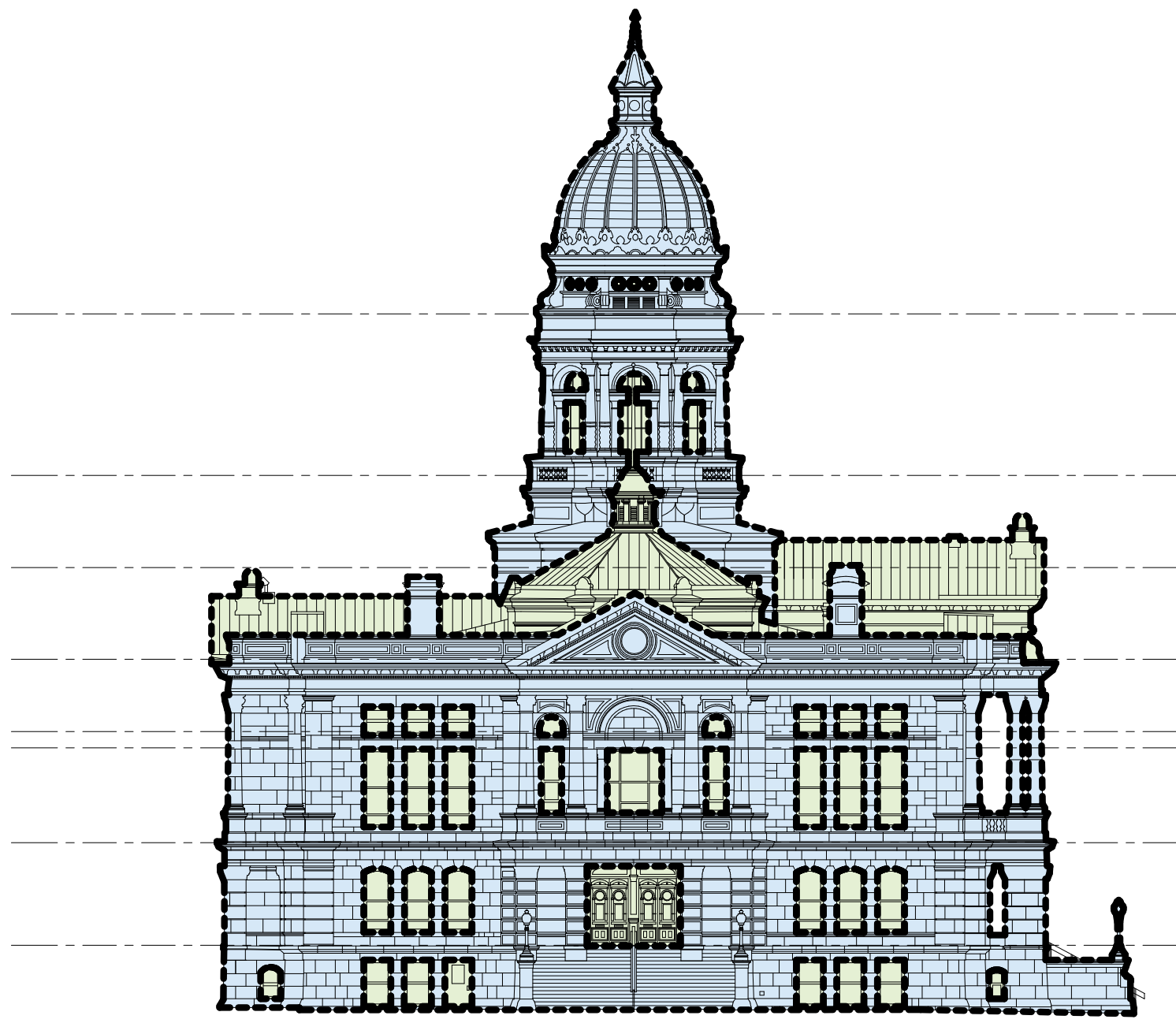


Figure 3.9: Preservation Zones - Dome 2 Plan

PRESERVATION ZONE LEGEND: (PERIOD OF SIGNIFICANCE 1971)			
1		PRESERVATION ZONE #1	RESTORATION
2		PRESERVATION ZONE #2	PRESERVATION
3		PRESERVATION ZONE #3	REHABILITATION
4		PRESERVATION ZONE #4	SERVICE AREA



PRESERVATION ZONE LEGEND: (PERIOD OF SIGNIFICANCE 1921)			
1		PRESERVATION ZONE #1	RESTORATION
2		PRESERVATION ZONE #2	PRESERVATION
3		PRESERVATION ZONE #3	REHABILITATION
4		PRESERVATION ZONE #4	SERVICE AREA

Figure 3.10: Preservation Zones - West Elevation



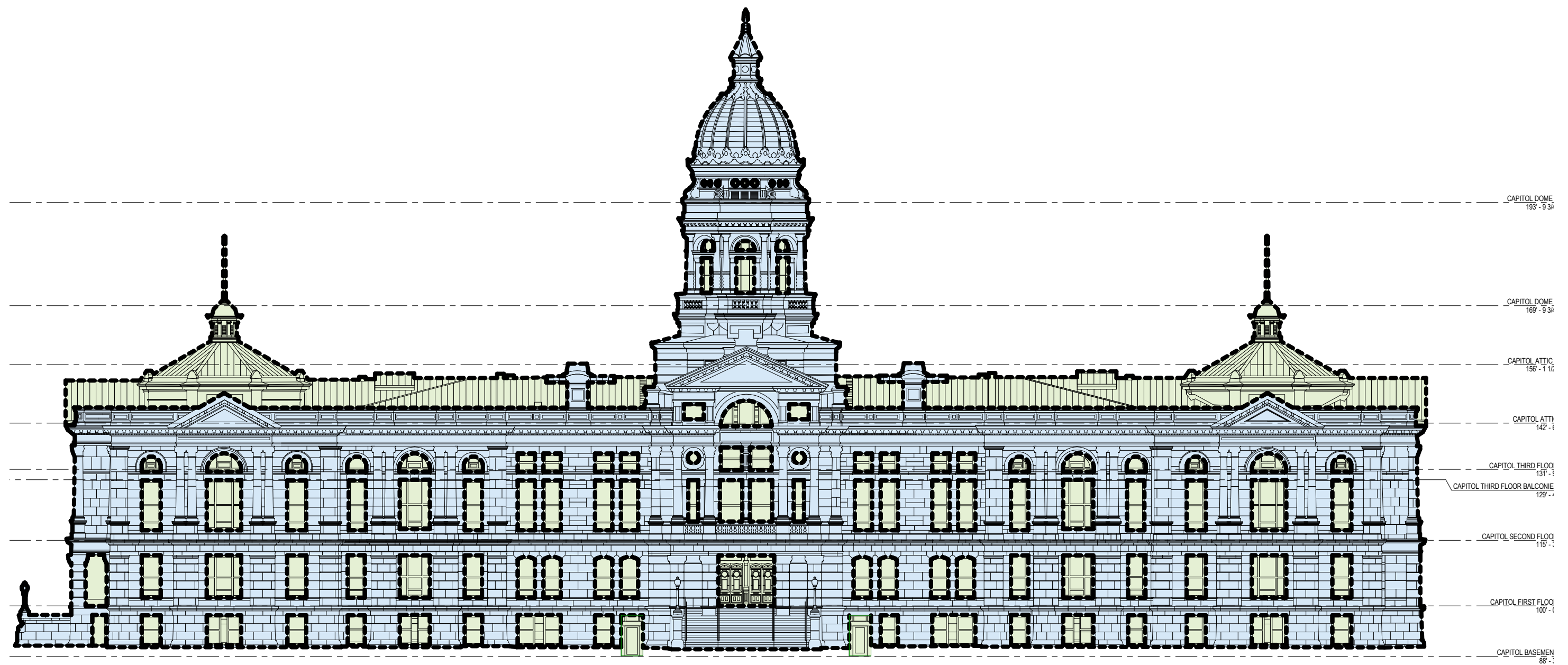
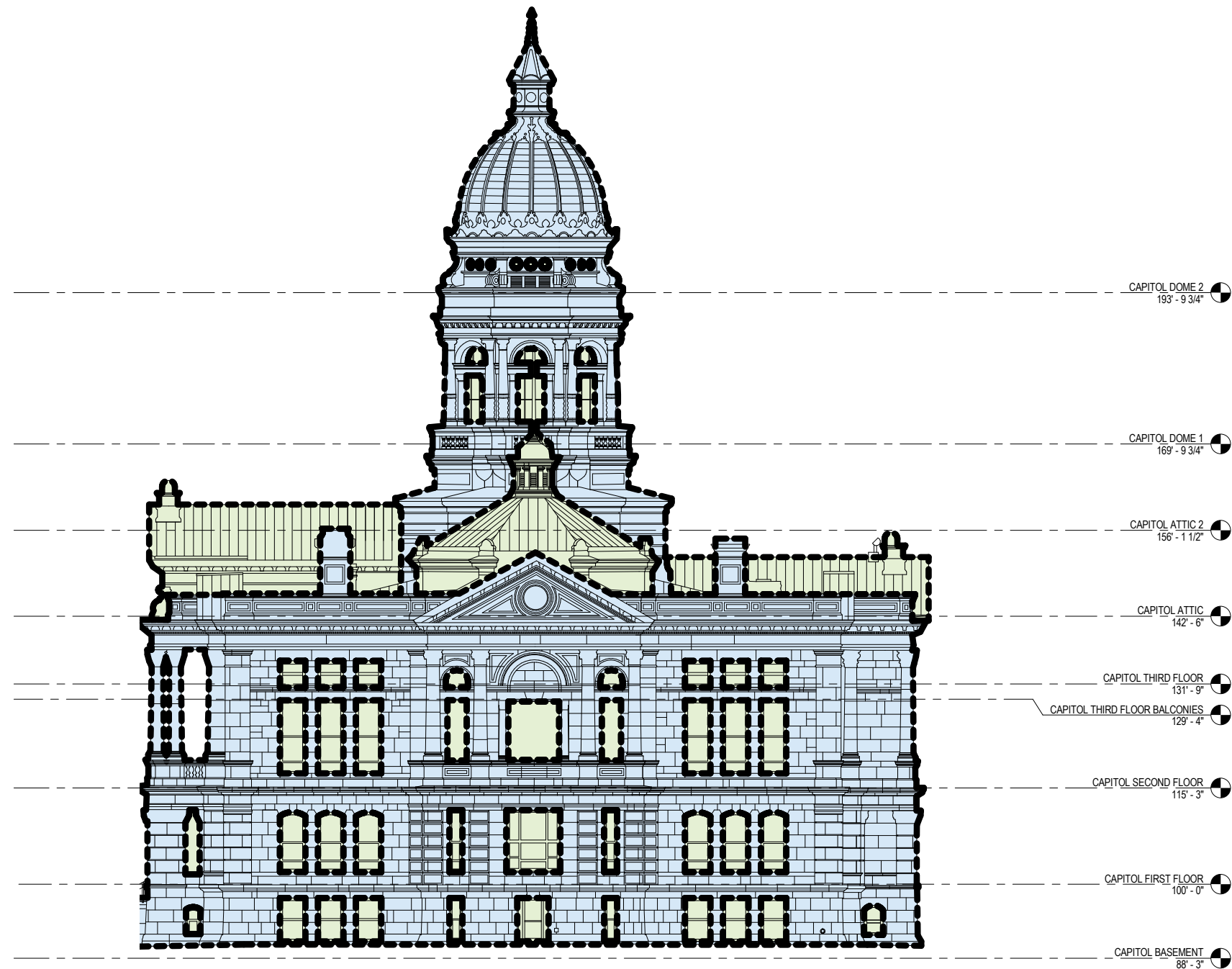


Figure 3.11: Preservation Zones - South (Front) Elevation

PRESERVATION ZONE LEGEND: <small>(PERIOD OF SIGNIFICANCE 1971)</small>			
1		PRESERVATION ZONE #1	RESTORATION
2		PRESERVATION ZONE #2	PRESERVATION
3		PRESERVATION ZONE #3	REHABILITATION
4		PRESERVATION ZONE #4	SERVICE AREA



PRESERVATION ZONE LEGEND: (PERIOD OF SIGNIFICANCE 1921)			
1		PRESERVATION ZONE #1	RESTORATION
2		PRESERVATION ZONE #2	PRESERVATION
3		PRESERVATION ZONE #3	REHABILITATION
4		PRESERVATION ZONE #4	SERVICE AREA

Figure 3.12: Preservation Zones - East Elevation



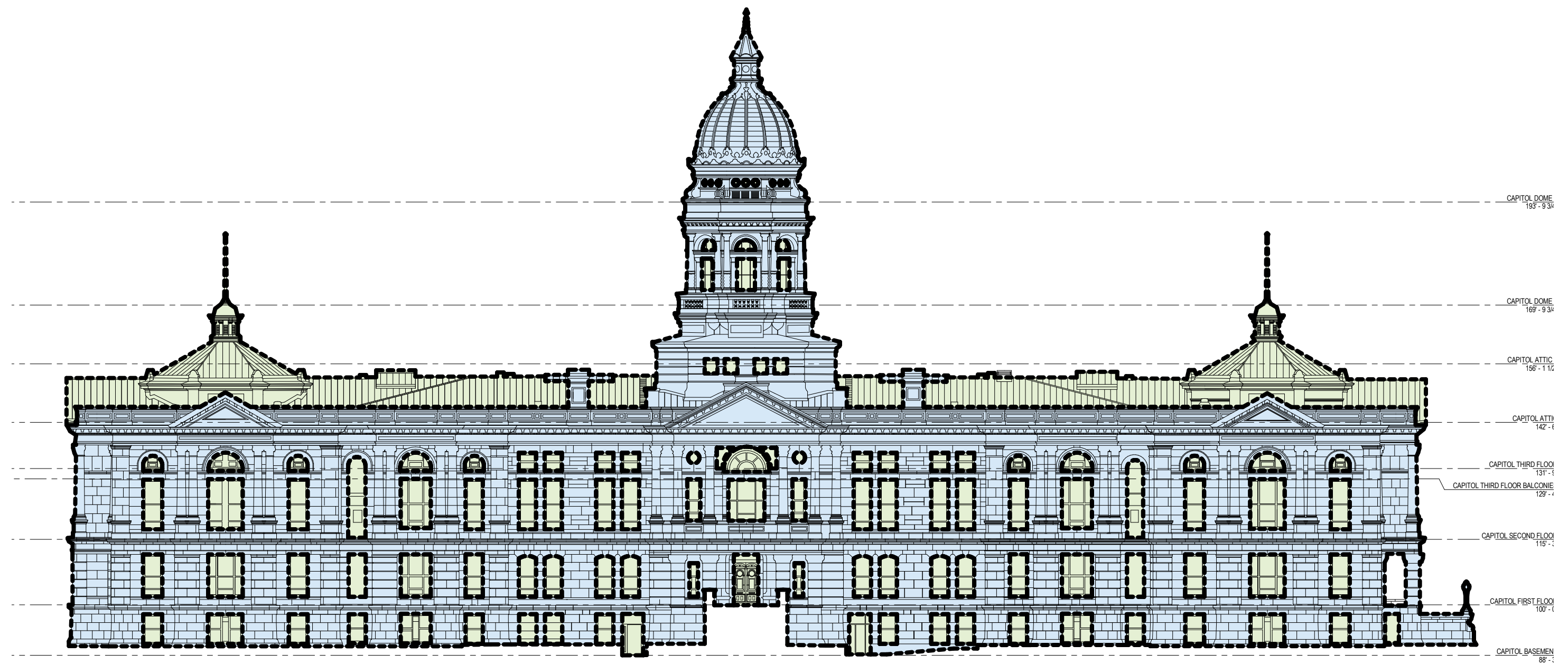


Figure 3.13: Preservation Zones - North (Back) Elevation

PRESERVATION ZONE LEGEND: (PERIOD OF SIGNIFICANCE 1971)			
1		PRESERVATION ZONE #1	RESTORATION
2		PRESERVATION ZONE #2	PRESERVATION
3		PRESERVATION ZONE #3	REHABILITATION
4		PRESERVATION ZONE #4	SERVICE AREA



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Section 4 : Methodology of Assessment & Evaluation

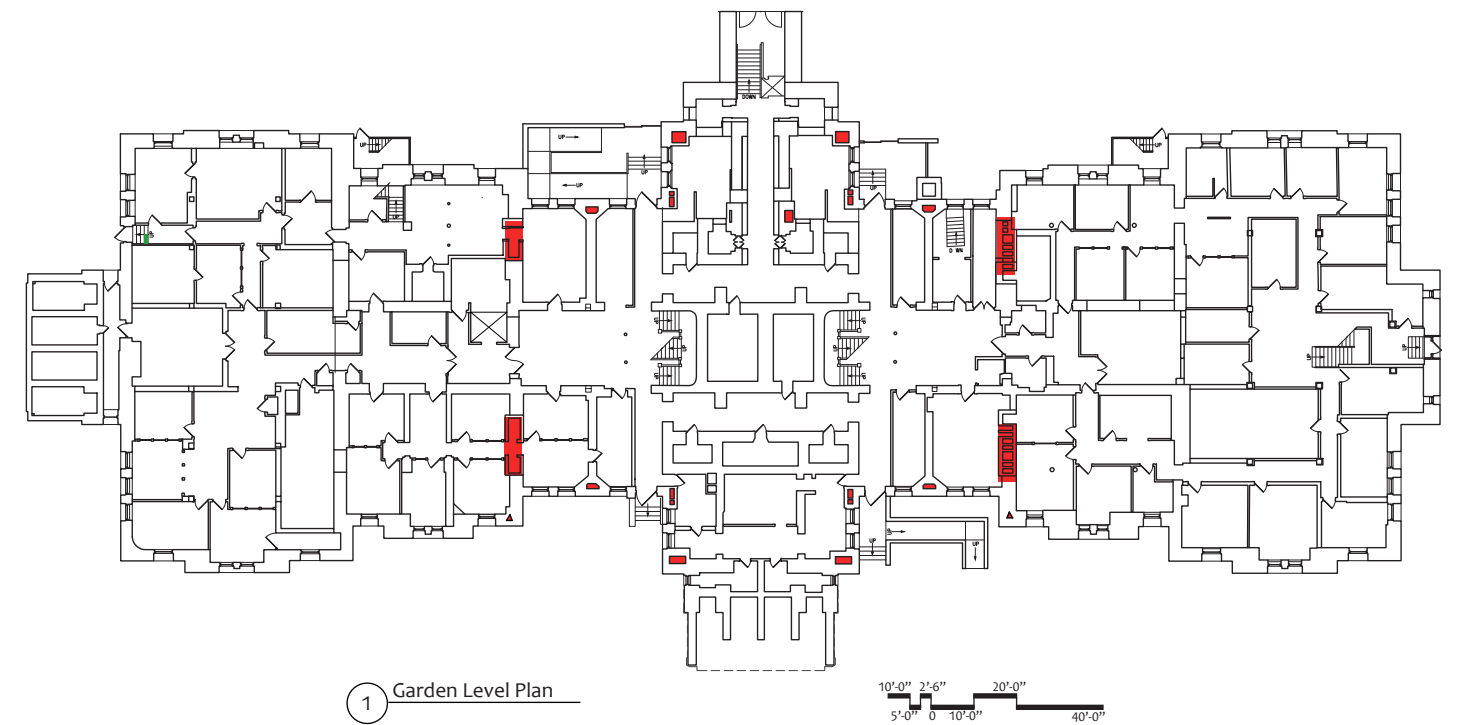
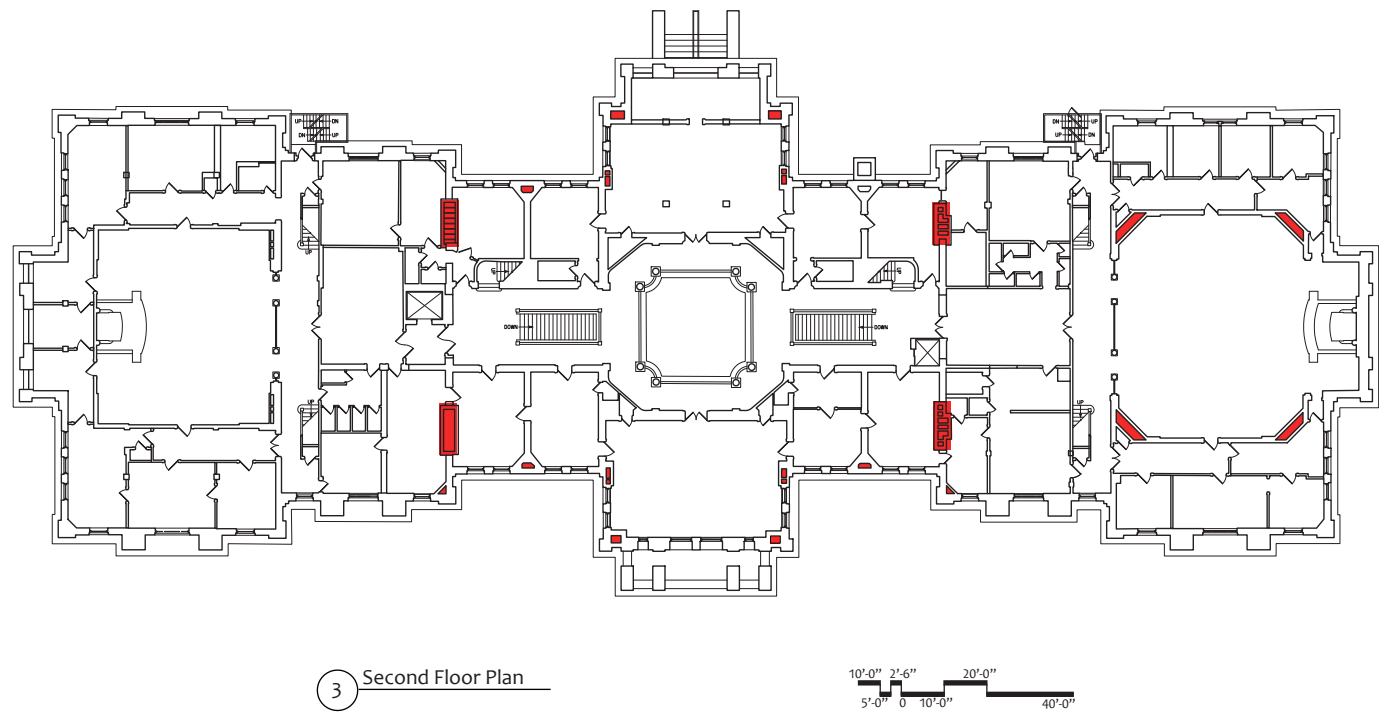
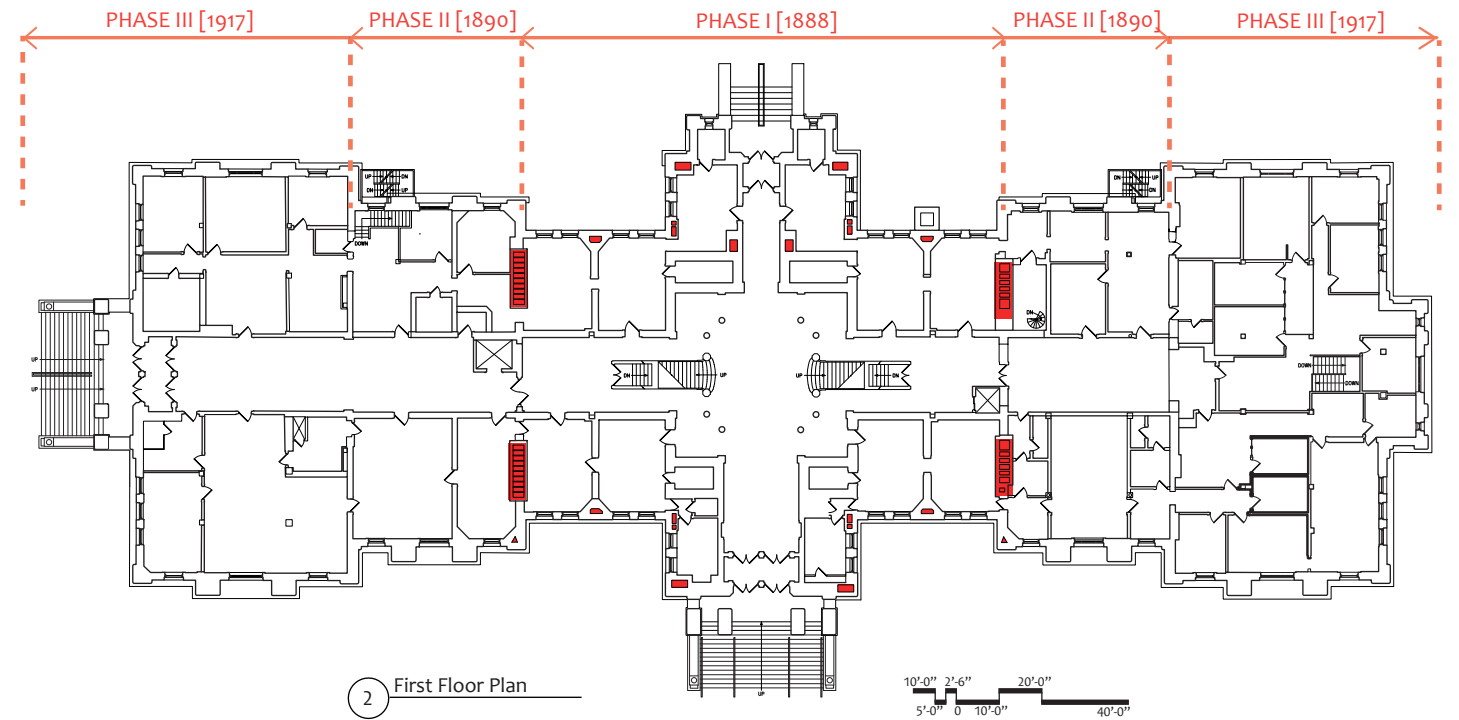
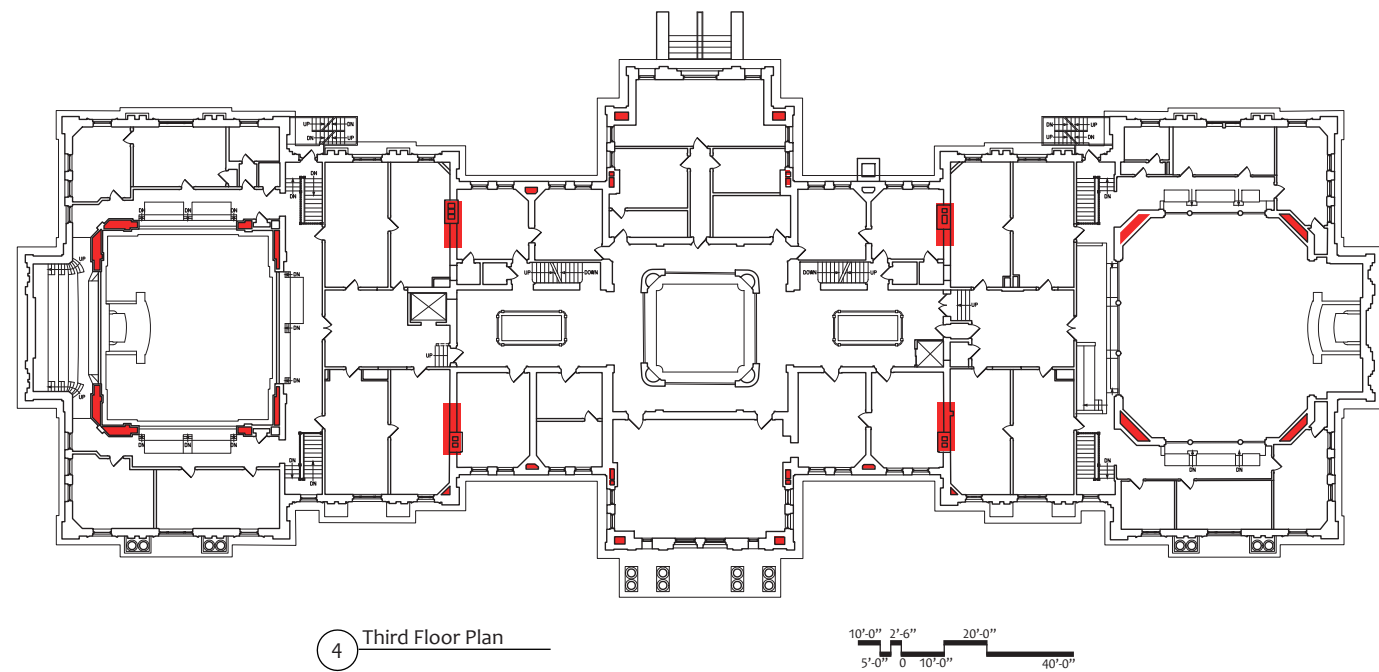


Figure 4.1.1: Diagram of Locations of Existing Shafts



INTRODUCTION

The Capitol is a National Historic Landmark [NHL]. The restoration of the state of Wyoming’s most historic building:

- must comply with the *Secretary of the Interior Standards* for the Treatment of Historic Properties
- should be based on scientific research, evidence and authenticity.

Based on its historic evolution, changes over time and the presence [or absence] of historic building fabric, it is proposed that the building be organized in 5 Preservation Zones, based on:

- a. Architectural and Historic Significance
- b. Presence of Primary Historic Building Fabric
- c. Hierarchy of Use and Proximity to Primary Spaces
- d. Proposed Uses and Relationship to the Public Domain

While a significant amount of archival, historic and architectural research has been already completed and a limited number of probes / destructive testing has been undertaken [*Refer to Field Observation Report – Probe Observations dated 11/07/2014 and Field Observation Report – dated 10/29/2014*] there are still several critical items that need to be understood:

1. Transitions of Construction Periods

There are two “seams” in the building, one between 1888 and 1890 and the second between 1890 and 1917.

The sequence of construction and understanding based on archival research only were delineated in the Level I/II Study / Volume I.

In addition to structural issues to be resolved, these transition areas play a critical role in the distribution of building infrastructure and systems.

Additional probes and destructive examination will be needed to determine critical dimensions in these areas.

2. Chases and Vertical Shafts

There are several areas in the building where shafts are available for the potential of distributing building systems from the Garden Level to the Attic and vice versa. [*Figure 4.1.1*].

3. Space Above Existing Ceilings

Following the last phase of construction [1917] and the completion of the building as it appears today, a number of modifications were made, adding and modifying existing ceilings throughout the building including some of the monumental corridors.

The articulation of the original ceilings and their relationship to the structure above, was based on design principles of the period when building systems were simple and the need for space was limited.

The limited probes undertaken in the fall of 2014, did not yield sufficient information to ascertain how systems can be distributed in certain areas, particularly throughout the monumental corridors.

Certain assumptions have been made. However, additional information will be needed to validate the proposed design in several areas.

4. Sequence of Removals and New Construction

In developing this Schematic Design, it became evident that a clear sequence of documentation, removals and new construction needs to be developed:

- a. so that concealed evidence and historic building fabric are carefully revealed and assessed for possible integration in the proposed design
- b. so as to not compromise the structural integrity of this unique National Historic Landmark

The proposed new work will have to follow a similar sequence for the same reasons.

These items require additional assessments following exposures, destructive examination and analytical work mostly driven by structural engineering, as well as historic fabric analysis.

It is anticipated that as part of the Schematic Design Review, a clear “path forward” will be established cooperatively between the Client, the CMAR and the Design Team.



Section 5: Program



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5.1 INTRODUCTION

Level I/II provided the program of space needs for the current occupants of the Capitol, but did not assign future spaces. On September 29, 2014 the Oversight Group assigned space in the Capitol for Legislature, Governor, and Security in accordance with SEA 43.

The space allocations for Legislature and Governor are based upon the Level I/II Reports and plan development through meetings with each group, in addition to the Advisory Task Force and the Select Committee on Legislative Facilities.

The space allocations for Security were developed based on meetings with the Wyoming Highway Patrol (WHP) and strategic planning initiatives. Specific programming information for the WHP needs to be confirmed with the Security Assessment study currently underway.

Space was also allocated for the Secretary of State, Auditor, Treasurer, and Attorney General Offices.

This report provides the space assignments based on this direction. The Design Development phase will further refine the layout of each room.

The space list spreadsheets herein maintain the accounting of existing and planned space assignments as reported in the Level I/II Report. Modifications to the list have been incorporated to improve space tracking and account for variations that have occurred through the Schematic Design Process.

Each State Agency is assigned a unique Agency Number. The space list now uses this established number as the prefix to the Room Program Number. This system will aid in tracking each Agency’s space on the plans and provide unique identifiers for each room that will tie back to this program list.

The Capitol includes space for the following Agencies:

- 001 Governor
- 006 Administration and Information
 - Space for Elected Offices in the Capitol
 - Public Information Counter
 - Capitol Unassigned
- 015 Attorney General
- 045 Department of Transportation – Wyoming Highway Patrol
- 201 Legislature



5.2.1 Alterations

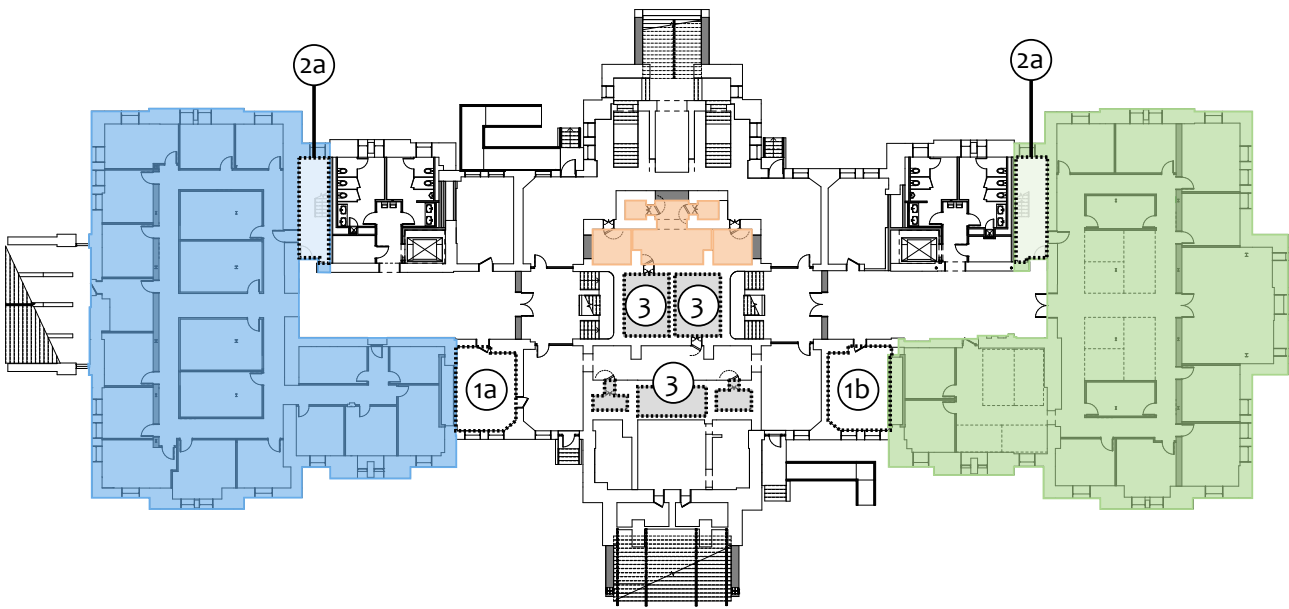


Figure 5.2.1.1: Proposed Space Allocation + Areas of Change - Garden Level [Capitol]

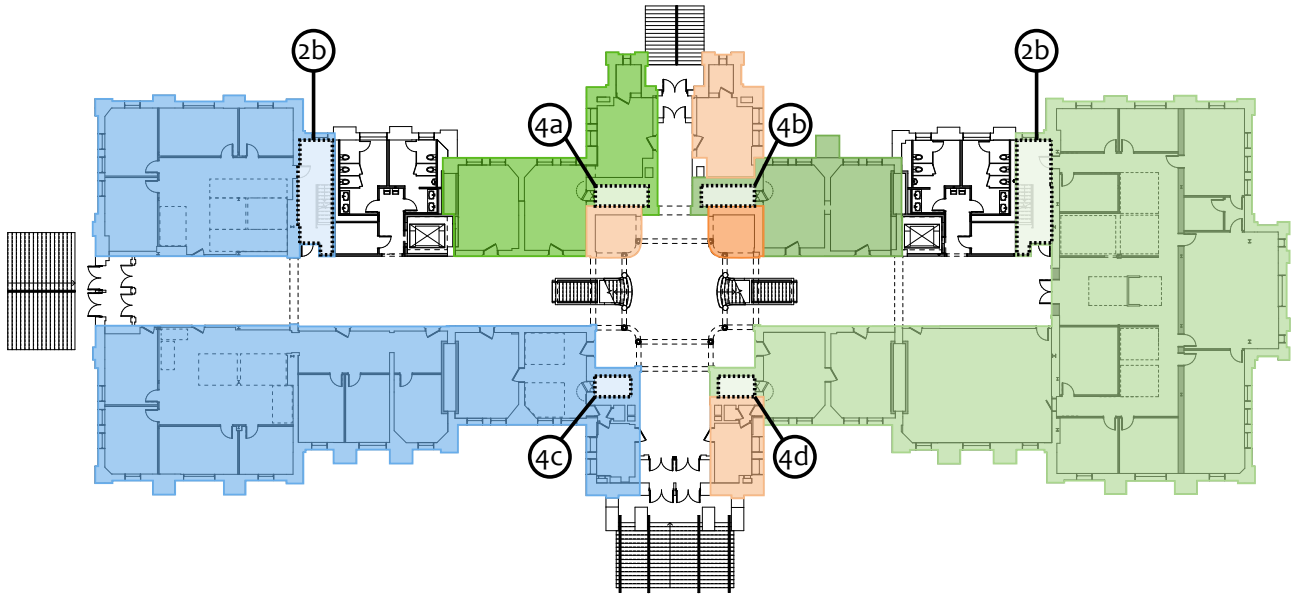


Figure 5.2.1.2: Proposed Space Allocation + Areas of Change - First Floor [Capitol]

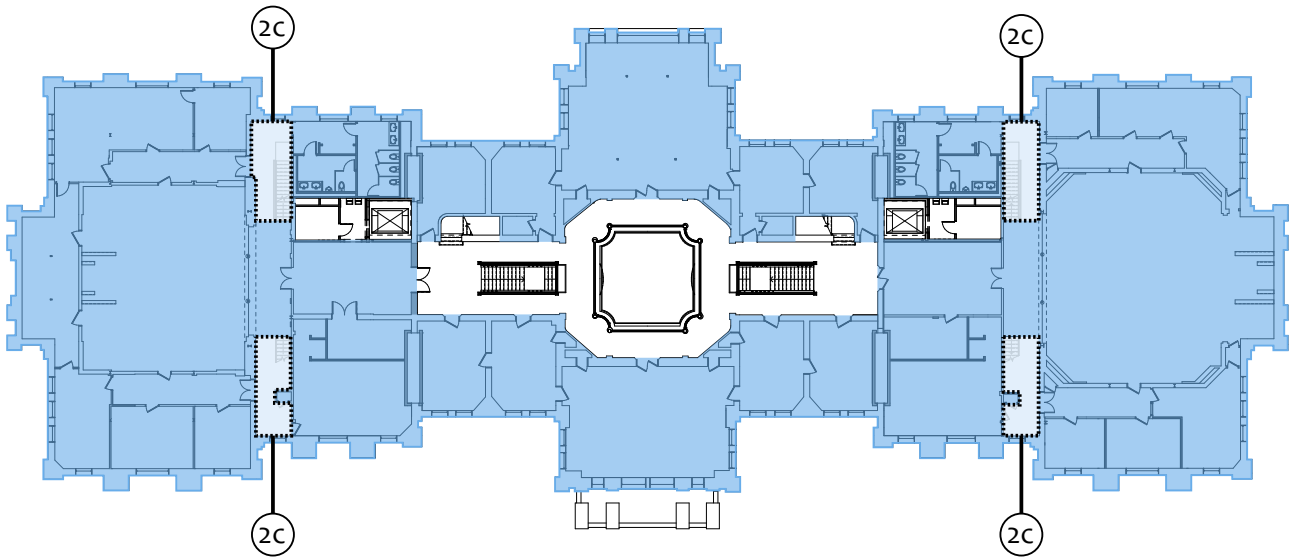


Figure 5.2.1.3: Proposed Space Allocation + Areas of Change [Capitol]

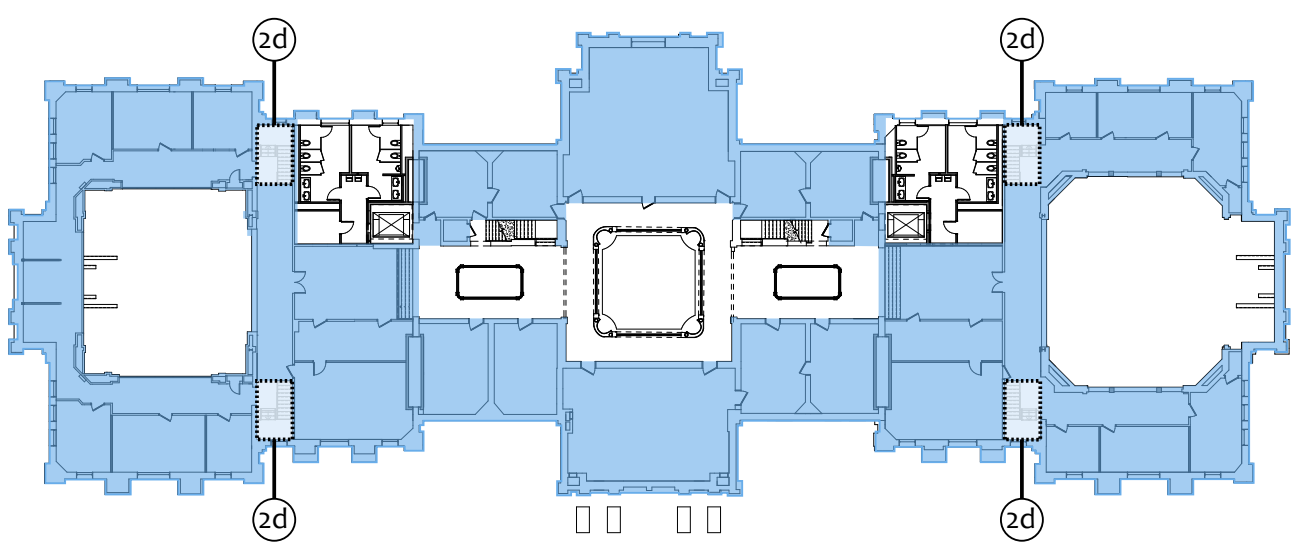


Figure 5.2.1.4: Proposed Space Allocation + Areas of Change - Third Floor [Capitol]



5.2 ALTERATIONS

The total building area has not changed, however the area tabulation has changed to account for variations in the design and how space has been assigned or utilized.

- Minor variations for removal and addition of stairs and shafts (elevators and mechanical systems).
- Utilization of the attic space changes significantly – our assumptions for tabulating space affect the numbers represented in the Level I/II Report
- Additional space was needed for mechanical systems at the Garden Level as opposed to that represented in the Level I/II report (1888 Building).
- The spaces under the rotunda and front steps at the Garden Level are primarily assigned to building systems; however there are some spaces which may be usable for the State as the design becomes finalized. Many of these spaces are currently unassigned and accounted for in the 006 - Administration and Information section; in addition, three areas have been assigned to section 045 - Department of Transportation (WHP).

The below table (Table 5.2.2.1) represents the most recent Net Assignable Square Feet (NASF) calculations. An adjustment has been made to the Proposed Area following the Level I/II Report; the previous number did not account for assigned circulation, Legislative galleries, reception, lobbies, restrooms, A/V rooms, Information, and Security. These areas are considered Net Assignable and have been added to the Proposed Area calculations.

In addition, alterations to the Net Assignable Square Feet have been made following what was reported in the Level I/II Report. These alterations result in the Schematic Design NASF.

The diagrams on the preceding page highlight these areas, which include the following:

1. Garden Level Mechanical Rooms are **no longer included** in the Net Assignable Square Feet calculations. [1a, 1b]
2. The new stair is now assigned space and **is thus included** in the Net Assignable Square Feet calculations; this is true for all four levels of the Capitol building. [2a, 2b, 2c, 2d]
3. Spaces within the Garden Level Rotunda are **now included** in the Net Assignable Square Feet calculations. [3]
4. The first floor vaults are **now included** in the Net Assignable Square Feet calculations [4a, 4b, 4c, 4d].

	Building Area [GSF]	Usable Area * [NASF]	Proposed Area * [NASF]	Schematic Design Building Area [GSF]	Schematic Design Area [NASF]
Garden Level	28,830	15,391	11,175	29,140	11,897
1st Floor	27,010	15,749	14,209	26,763	14,209
2nd Floor	26,207	19,174	18,602	26,202	18,602
3rd Floor	21,513	14,627	13,319	21,515	13,319
Attic	24,727	0	0	10,611	0
Dome	1,252	0	0	1,017	0
Total	129,539	64,941	57,305	115,248	58,027

Table 5.2.2.1: NASF Chart for the Capitol.

* Area take-offs have been adjusted from the Level I/II Report to correct anomalies and to align interpretations of net assignable areas.



5.3.1 : 001 - Governor

The Office of the Governor is in section 001 and is located on the garden level and first floor of the Capitol.

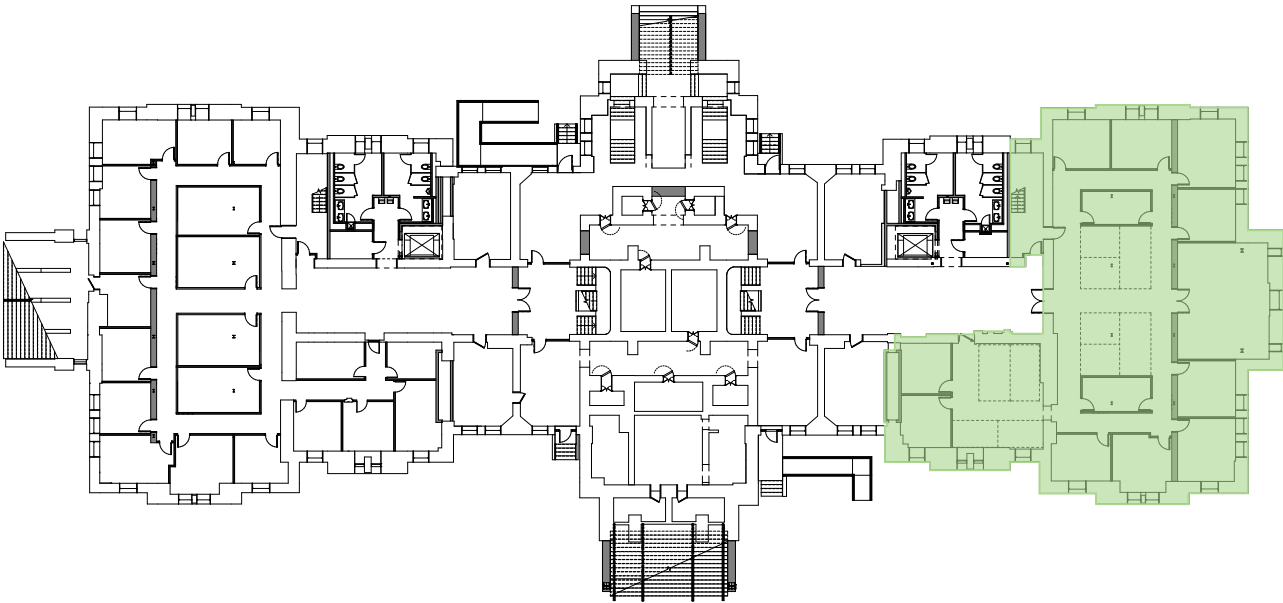


Figure 5.3.1.1: Proposed Space Allocation: Governor - Garden Level [Capitol]

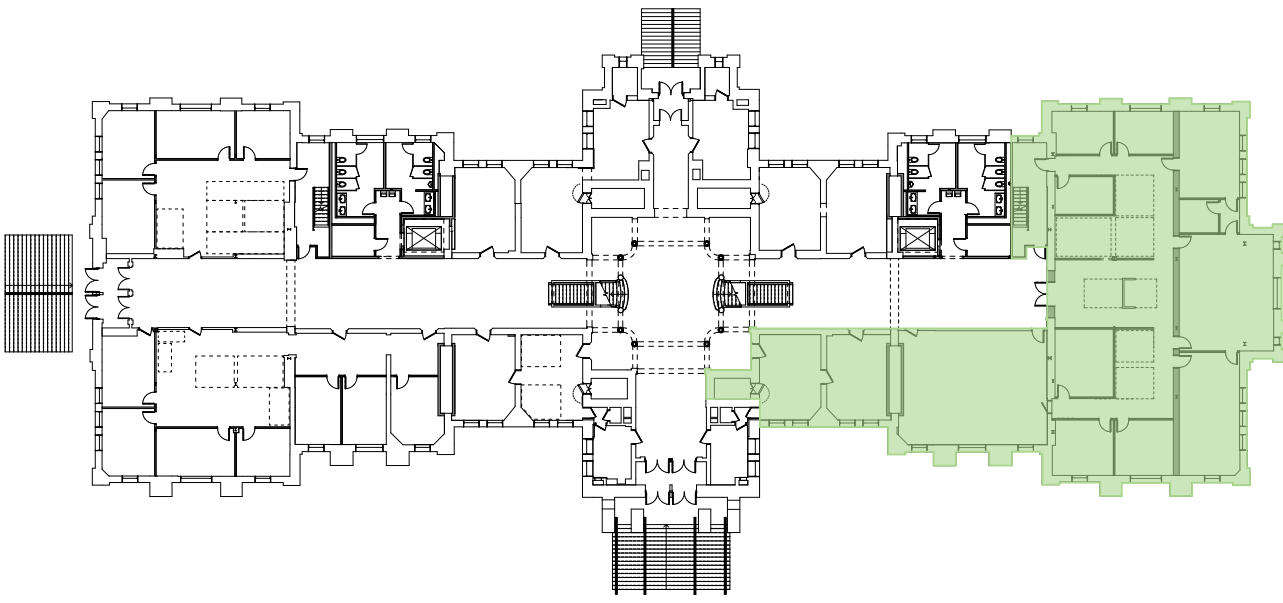


Figure 5.3.1.2: Proposed Space Allocation: Governor - First Floor [Capitol]

					EXISTING ASSIGNMENTS			PROGRAM REQUEST			SCHEMATIC DESIGN				
Program #	Building	Room #	Room Name		Off-Site NASF	Room #	Capitol NASF	Occupancy		Capitol NASF	Assigned NASF	difference to existing	difference to program	Comments	
		Typical						Peak							
001 GOVERNOR															
Administration															
Administration															
001- 01	Capitol	163	Governor			135	258	1	10	Office	350	720	462	370	
001- 02	Capitol	169	Chief of Staff			100.7	165	1	7	Office	250	213	48	-37	
001- 03	Capitol	168	Governor Assigned			100.6	111	1	3	Office	150	216	105	66	
001- 04	Capitol	176	Communications Director			131	119	1	3	Office	150	144	25	-6	
001- 05	Capitol	177	General Counsel & Policy Development			104	154	1	5	Office	200	259	105	59	
001- 06	Capitol	175	Special Council					1	3	Office	150	167	167	17	Not reported in Level I/II
circulation (calculation)										250				Reported at 310 sf in Level I/II	
Administration Staff															
001- 11	Capitol	161	Office Manager			102	345	1	2	Workstation	80	72	-273	-8	
001- 12a	Capitol	178.2	Administrative Assistant			132	124	1	2	Workstation	80	78	-46	-2	
001- 12b	Capitol	178.1	Administrative Assistant			100	279	1	2	Workstation	80	78	-201	-2	
001- 12c	Capitol	B60.13	Administrative Assistant			103	335	1	2	Workstation	80	128	-207	48	
001- 13	Capitol	177.2	Scheduler			100.4	109	1	2	Workstation	80	96	-13	16	Level I/II 150 sf office
001- 14	Capitol	177.3	Executive Assistant			100.5	111	1	2	Workstation	80	102	-9	22	Level I/II 150 sf office
001- 15	Capitol	B52	Legislative Liaison	session only				1	5	Office	200	161	161	-39	Level I/II 150 sf office
001- 16a			Temporary Workstations			101.3	70			Workstation	50	0	-50	-50	
001- 16b			Temporary Workstations			101.4	90			Workstation	50	0	-50	-50	
circulation (calculation)										156				Reported at 84 sf in Level I/II	
Assigned Circulation															
Capitol	B51		Circulation 2.B								45	45	45	20%	
Capitol	165		Circulation 2.C								518	518	518	100%	
Capitol	171		Circulation 2.D								43	43	43	100%	
Capitol	154		Circulation 2.F								242	242	242	100%	
Subtotal					2,270			13	48	2,436	3,282	770	1,010		

Note:
Items highlighted in dark orange represent spaces that have not been assigned.



5.3.2 : 001 - Governor

					EXISTING ASSIGNMENTS			PROGRAM REQUEST			SCHEMATIC DESIGN				
Program	#	Building	Room #	Room Name	Off-Site NASF	Room #	Capitol NASF	Typical	Peak	Capitol NASF	Assigned NASF	difference to existing	difference to program	Comments	
Policy Group															
001- 21		Capitol	B60.7	Director	447	Herschler		1	7	Office	250	259	-188	9	
001- 22		Capitol	B60.3	Deputy Director	197	Herschler		1	5	Office	200	237	40	37	
001- 23		Capitol	B53	Policy Advisor	135	Herschler		1	3	Office	150	165	30	15	
001- 24		Capitol	B60.1	Policy Advisor	210	Herschler		1	3	Office	150	180	-30	30	
001- 25		Capitol	B60.2	Policy Advisor		Herschler		1	3	Office	150	211	211	61	
001- 26		Capitol	B60.4	Policy Advisor	200	Herschler		1	3	Office	150	213	13	63	
001- 27		Capitol	B60.6	Policy Advisor	394	Herschler		1	3	Office	150	198	-196	48	
001- 28		Capitol	B60.9	Policy Advisor	447	Herschler		1	3	Office	150	184	-263	34	
001- 29		Capitol	B60.8	Health Policy Office	232	Herschler		1	3	Office	150	193	-39	43	
001- 31		Capitol	B51.4	Policy Analyst	100	Herschler		1	2	Workstation	80	81	-19	1	
001- 32		Capitol	B60.14	Policy Analyst	148	Herschler		1	2	Workstation	80	128	-20	48	
001- 33		Capitol	B51.1	Policy Analyst	232	Herschler		1	2	Workstation	80	115	-117	35	
001- 34		Capitol	B51.2	Policy Analyst	230	Herschler		1	2	Workstation	80	107	-123	27	
001- 35		Capitol	B51.3	Policy Analyst	200	Herschler		1	2	Workstation	80	80	-120	0	
001- 36		Capitol	B60.12	Policy Analyst	180	Herschler		1	2	Workstation	80	80	-100	0	
001- 37		Capitol	B60.11	Policy Analyst	216	Herschler		1	2	Workstation	80	80	-136	0	
001- 38		Capitol	B60.15	Special Consultant	216	Herschler		1	2	Workstation	80	80	-136	0	
001- 39		Capitol	B60.16	Administrative Assistant		Herschler		1	2	Workstation	80	81	81	1	
circulation (calculation)										444					
Assigned Circulation															
		Capitol	B60	Circulation 2.A							813	813	813	75%	
		Capitol	B51	Circulation 2.B							180	180	180	80%	
		Captiol	B57	Circulation 2.E							168	168	168	75%	
Subtotal					3,784		0	18	51	2,664	3,833	49	1,169		

Note:
Items highlighted in dark orange represent spaces that have not been assigned.

Program	#	Building	Room #	Room Name	Off-Site NASF	Room #	Capitol NASF	Occupancy		Capitol NASF	Assigned NASF	difference to existing	difference to program	Comments
								Typical	Peak					
Support														
001- 81		Capitol	147	Reception of Public	6 guests	103		2	10	300	339	339	39	
001- 81a		Capitol	162	Reception Coffee Stand				1	2	60	60	60	0	Not reported in Level I/II
001- 82		Capitol	160	Reception of Governor	6 guests	100		2	6	300	228	228	-72	
001- 83		Capitol	170	Executive Conference Room	16-20 people	134	496	16	20	300	487	-9	187	
001- 84		Capitol	151	Ceremonial Conference Room	30-40 people	101	522	30	40	1,000	1,078	556	78	
001- 85		Capitol	146	Small Conference Room (Governor)	4-6 people			4	6	200	336	336	136	
001- 86				Medium Conference Room (Governor)	8-10 people					300	0	0	-300	
001- 87		Capitol	B60.5	Medium Conference Room (Policy)	8-10 people	Herschler		8	110	300	694	694	394	
001- 88		Capitol	173	Large Conference Room	12-16 people			12	16	350	343	343	-7	
001- 91		Capitol	174	Copy / Work Room (Governor)		136	78	3	6	200	164	86	-36	
001- 92		Capitol	B60.17	Copy / Work Room (Policy)		Herschler		2	4	150	153	153	3	
001- 93a		Capitol	148	General Storage	[existing pass-thru]	100.3	79	1	2	150	49	-30	-101	
001- 93b				General Storage		103.1	47				0	0	0	
001- 93c				General Storage							0	0	0	
001- 93d				General Storage							0	0	0	
001- 93e				General Storage							0	0	0	
001- 93f				General Storage							0	0	0	
001- 94		Capitol	B60.10	Kitchenette / Break room	[existing pass-thru]	100.1	39	1	5	250	148	109	-102	
001- 95a		Capitol	172	Private Restroom		100.2	26	1	1	80	85	59	5	
001- 95b				Private Restroom		101.2	36							
001- 95c				Private Restroom		103.3	22							
circulation (calculation)							160							
Assigned Circulation														
		Capitol	B60	Circulation 2.A							271			25%
		Capitol	B57	Circulation 2.E							56			25%
Subtotal					0		1,505	83	228	3,940	4,491	2,986	551	

Program	#	Building	Room #	Room Name	Off-Site NASF	Room #	Capitol NASF	Occupancy		Capitol NASF	Assigned NASF	difference to existing	difference to program	Comments
Total					3,784		3,775	114	327	9,040	11,606	4,047	2,566	

Governor Totals - Capitol



5.3.3 : 006 - Administration & Information - Elected Offices + Public Information + Unassigned Space

The following spaces are located under section 006 - Administration & Information:

- Unassigned Space
- Elected Offices at the Capitol
- Public Information / Tours

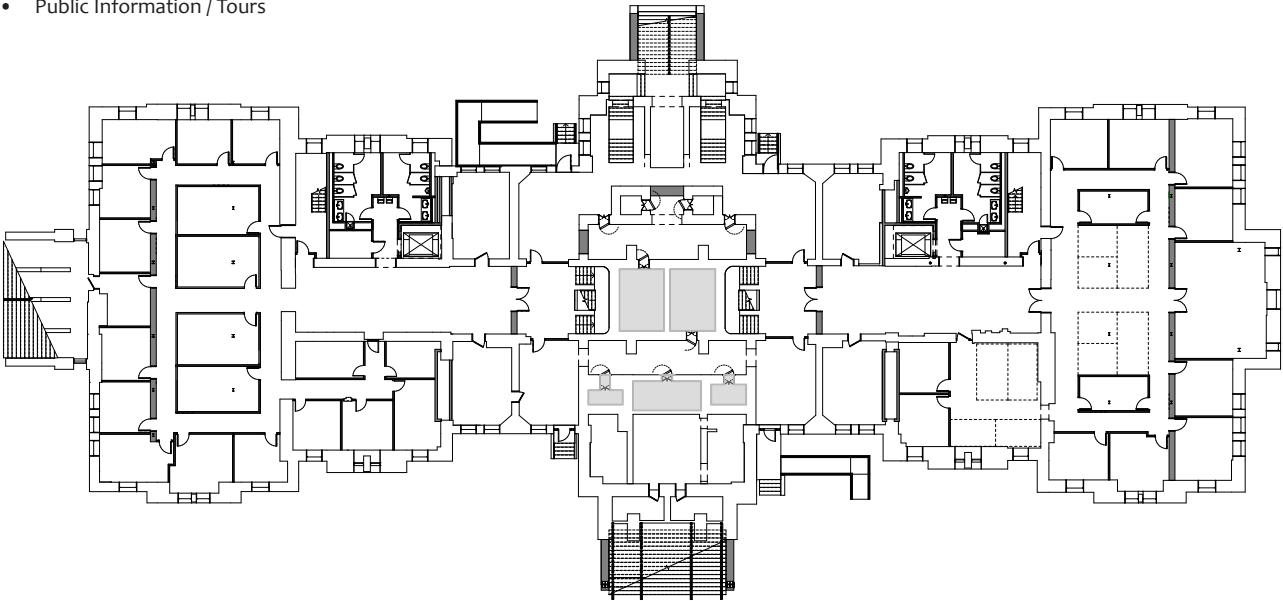


Figure 5.3.3.1: Proposed Space Allocation: Unassigned Space - Garden Level [Capitol]

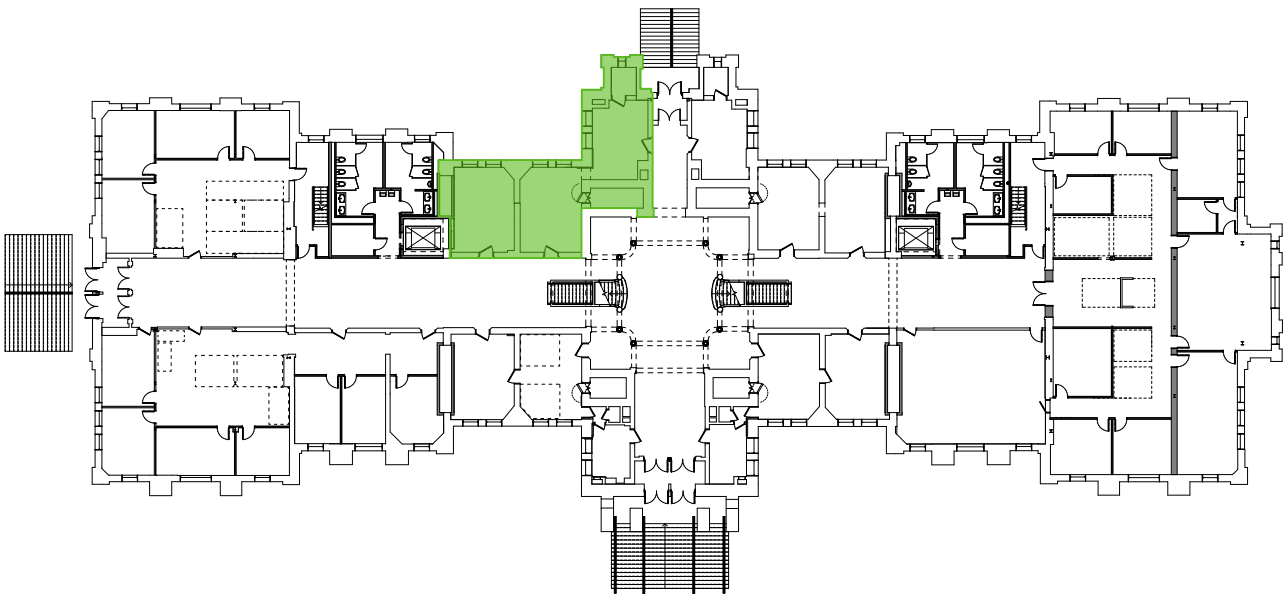


Figure 5.3.3.2: Proposed Space Allocation: Elected Rooms - First Floor [Capitol]

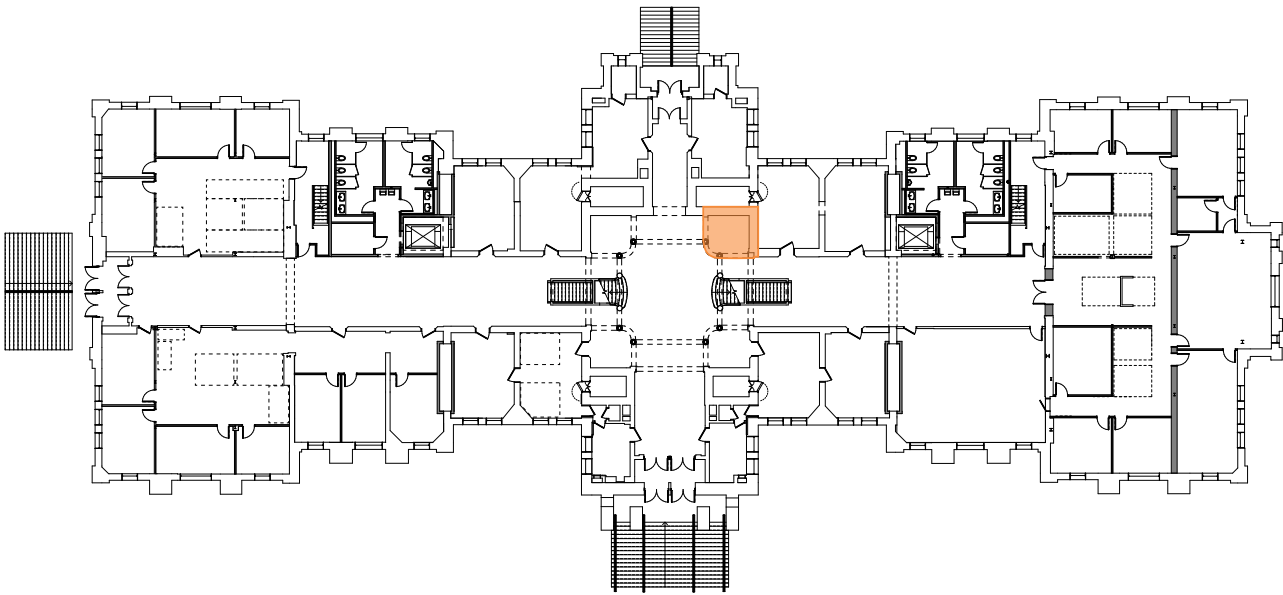


Figure 5.3.3.3: Proposed Space Allocation: Public Info & Tours - First Floor [Capitol]



5.3.4 : 006 - Administration & Information - Elected Offices + Public Information

				EXISTING ASSIGNMENTS			PROGRAM REQUEST			SCHEMATIC DESIGN				
Program #	Assigned Bldg	Room #	Room Name	1FL - West	Staff Count	Room #	Capitol	Occupancy		Herschler	Assigned NASF	difference to existing	difference to program	Comments
								Typical	Peak					
006 UNASSIGNED - CAPITOL														
006- 99a	Capitol	B00.6	Unassigned								26			
006- 99b	Capitol	B00.7	Unassigned								26			
006- 99c	Capitol	B00.1	Unassigned								180			
006- 99d	Capitol	B00.2	Unassigned								183			
006- 99e	Capitol	B18	Unassigned								32			
006- 99f	Capitol	B03	Unassigned								131			
006- 99g	Capitol	B48	Unassigned								46			
Capitol - Subtotal							0	0	0		624	n/a	n/a	

				EXISTING ASSIGNMENTS			PROGRAM REQUEST			SCHEMATIC DESIGN					
Program #	Assigned Bldg	Room #	Room Name	1FL - West	Staff Count	Room #	Capitol	Occupancy		Herschler		Assigned NASF	difference to existing	difference to program	Comments
								Typical	Peak						
006 ELECTED OFFICIALS at the Capitol															
006 21	Capitol	111	Elected Room		4-6 people			1	6	Office	250	330	330	80	
006 22	Capitol	112	Elected Room		8-10 people			1	6	Office	250	339	339	89	
006 23	Capitol	114	Elected Room		8-10 people			1	6	Office	250	269	269	19	
006 34a	Capitol	113	Storage					1	2			70	70	70	
006 34b	Capitol	115	Storage									46	46	46	
Subtotal				0				420		750		1,054	1,054	304	

				EXISTING ASSIGNMENTS			PROGRAM REQUEST			SCHEMATIC DESIGN				
Program #	Assigned Bldg	Room #	Room Name	1FL - West	Staff Count	Room #	Capitol	Occupancy		Herschler	Assigned NASF	difference to existing	difference to program	Comments
								Typical	Peak					
006 SUPPORT														
Public														
006- 01	Capitol	102	Information / Tours	100				1	3	100	100	0	0	
Capitol - Subtotal				100				1	3	100	100	0	0	



5.3.5 : 015 - Attorney General

The Office of the Attorney General is in section 015 and is located on the first floor of the Capitol, adjacent to the Office of the Governor.

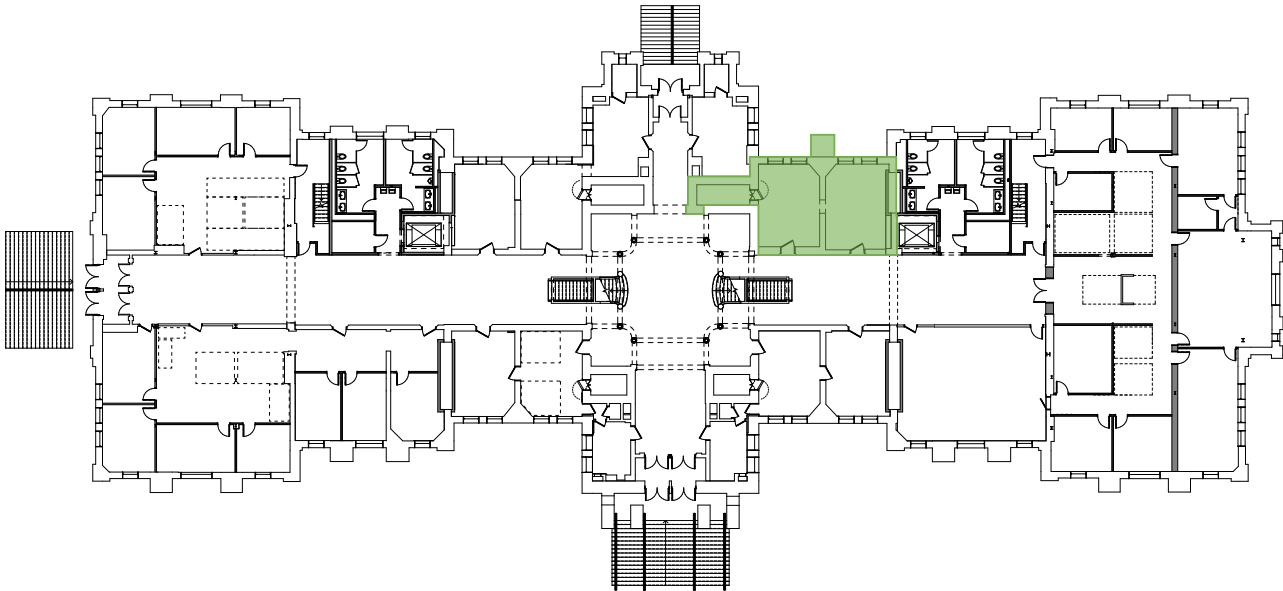


Figure 5.3.5.1: Proposed Space Allocation: Attorney General - First Floor [Capitol]

				EXISTING ASSIGNMENTS				PROGRAM REQUEST			SCHEMATIC DESIGN				
Program #	Assigned Building	Room #	Room Name	Off-Site NASF	Staff Count	Room #	Capitol NASF	Occupancy		Capitol NASF	Assigned NASF	difference existing	to difference to program	Comments	
								Typical	Peak						
015 ATTORNEY GENERAL															
Administration															
015- 01	Capitol	141	Attorney General		1	127	306	1	8	Office	300	347	41	47	
015- 02	Herschler		Deputy Attorney General		1	129	185	1	7	Office	250	0	-185	-250	
015- 03	Herschler		Attorney		1	123.1	161	1	5	Office	200	0	-161	-200	
015- 04	Herschler		Attorney		1	123.2	188	1	5	Office	200	0	-188	-200	
015- 05	Herschler		Law Office Supervisor		1	130	168	1	5	Office	200	0	-168	-200	
015- 06a	Herschler		Executive Assistant		1	123		1	2	Workstation	100	0	0	-100	
015- 06b	Capitol	142	Executive Assistant		1			1	2	Workstation		93	93		
Capitol - circulation										60				250 sf at Level I/II	
Herschler - circulation										190					
Administration - Capitol Subtotal							1,008	2	10	360	440	-568	80		
Administration - Herschler Subtotal							0	5	24	1,140	0	0	-1,140	Not yet assigned	

				EXISTING ASSIGNMENTS				PROGRAM REQUEST			SCHEMATIC DESIGN				
Program #	Assigned Building	Room #	Room Name	Off-Site NASF	Staff Count	Room #	Capitol NASF	Occupancy		Capitol NASF	Assigned NASF	difference existing	to difference to program	Comments	
								Typical	Peak						
Support															
015- 91a	Capitol	142	Reception of Attorney General	4 guests [existing pass-thru]	4	123	720	2	6	100	234	-486	134		
015- 91b	Herschler		Reception of Attorney General					2	6	150	0	0	-150		
015- 92	Herschler		Executive Conference Room	8-10 people	10			8	10	300	0	0	-200		
015- 93	Herschler		Small Conference Room	4-6 people	6	128	176	4	6	200	0	-176	-200		
015- 94	Herschler		Project Room	4-6 people	6			4	6	200	0	0	-150		
015- 95	Herschler		Copy / Work Room	[existing pass-thru]		123		1	4	150	0	0	-100		
015- 96	Capitol	143	General Storage					1	1		71	71	71		
015- 97	Herschler		General Storage							100	0	0	-150		
015- 98	Herschler		Kitchenette / Break room					1	6	150	0	0	-80		
015- 99	Herschler		Private Restroom					1	1	80	0	0	0		
Support - Capitol Subtotal							896	3	7	100	305	-591	205		

Capitol Total							1,904	5	17	460	745	-1,159	285	
Herschler Total							0	26	63	2,470	0	0	-2,470	
Total							1,904	31	80	2,930	745	-1,159	-2,185	

Note:
Rows highlighted in light orange represent spaces that are assigned in a building other than the Capitol.



5.3.6 : 045 - Security

Security and support for the Capitol are located under section 045 - Department of Transportation (WHP). These spaces are located on the garden level and first floor.

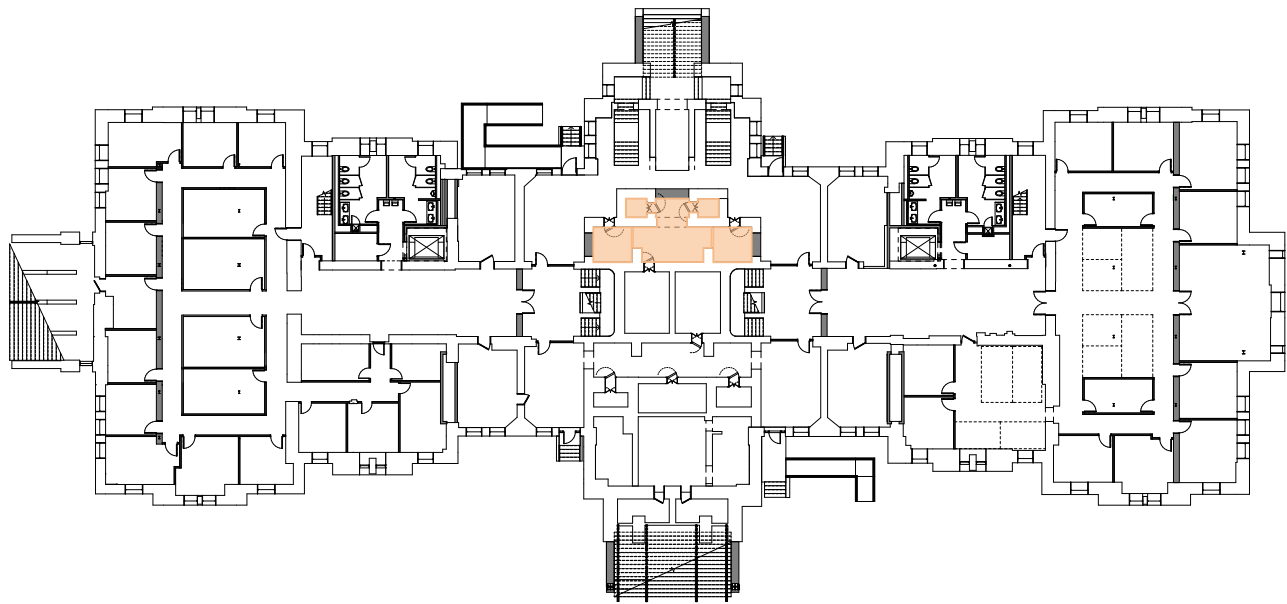


Figure 5.3.6.1: Proposed Space Allocation: Security- Garden Level [Capitol]

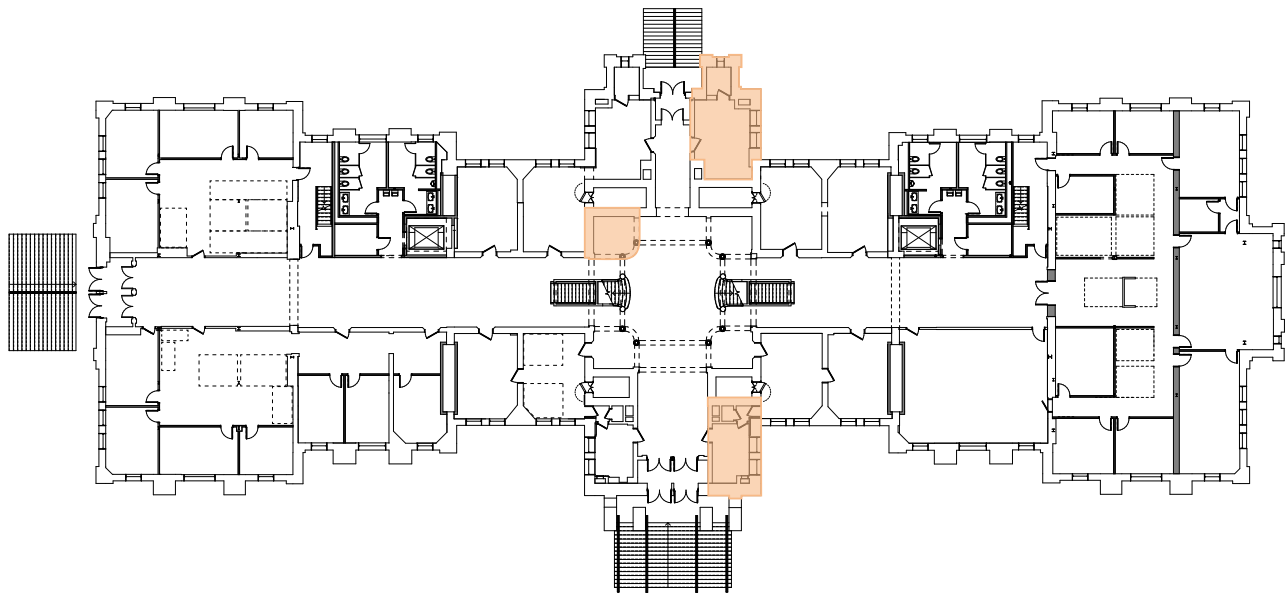


Figure 5.3.6.2: Proposed Space Allocation: Security - First Floor [Capitol]

				EXISTING ASSIGNMENTS			PROGRAM REQUEST			SCHEMATIC DESIGN			
				Off-Site NASF	Room #	Capitol NASF	Occupancy		Capitol NASF	Assigned NASF	difference to existing	difference to program	Comments
Program #	Building	Room #	Room Name				Typical	Peak					
045 DOT - WYOMING HIGHWAY PATROL - PUBLIC SAFETY - CAPITOL													
045- 21	Capitol	177.1	Detail Workstation (Gov)				1	2	Detail Workstation (Gov)	64	137	137	73
045- 31	Capitol	144	Capitol Support				1	3			266	266	266
045- 32a	Capitol	149	Capitol Support				1	3			139	139	139
045- 32b	Capitol	149.2	Capitol Support				1	3			24	24	24
045- 33a	Capitol	B01	Capitol Support				1	2			88	88	88
045- 33b	Capitol	B02	Capitol Support				1	2			88	88	88
045- 33c	Capitol	B00.4	Capitol Support				1	2			230	230	230
045- 41	Capitol	101	Capitol Entrance Station				1	2		100	123	123	23
045- 95a	Capitol	145	Storage								45	45	45
Capitol - Subtotal				0			8	19		164	1,140	1,140	976



5.3.7 Legislature

The Legislature, including LSO, will be located on parts of the garden level, first, second and third floors of the Capitol. Additional space is also provided in the Cup Connector.

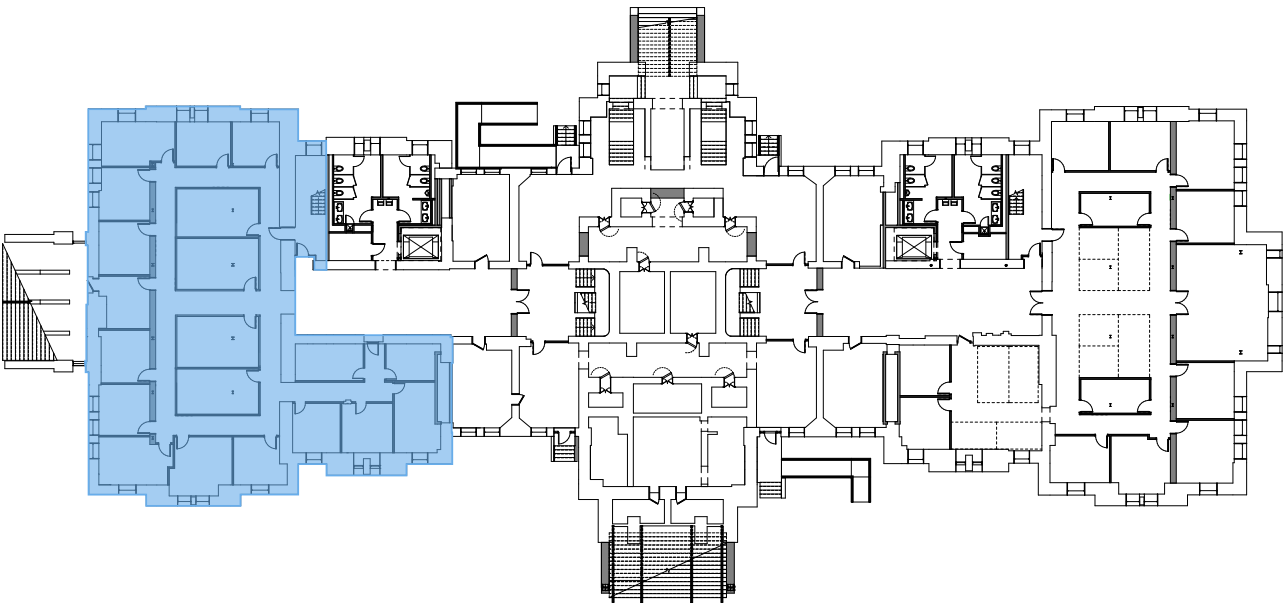


Figure 5.3.7.1: Proposed Space Allocation: Legislature and LSO - Garden Level [Capitol]

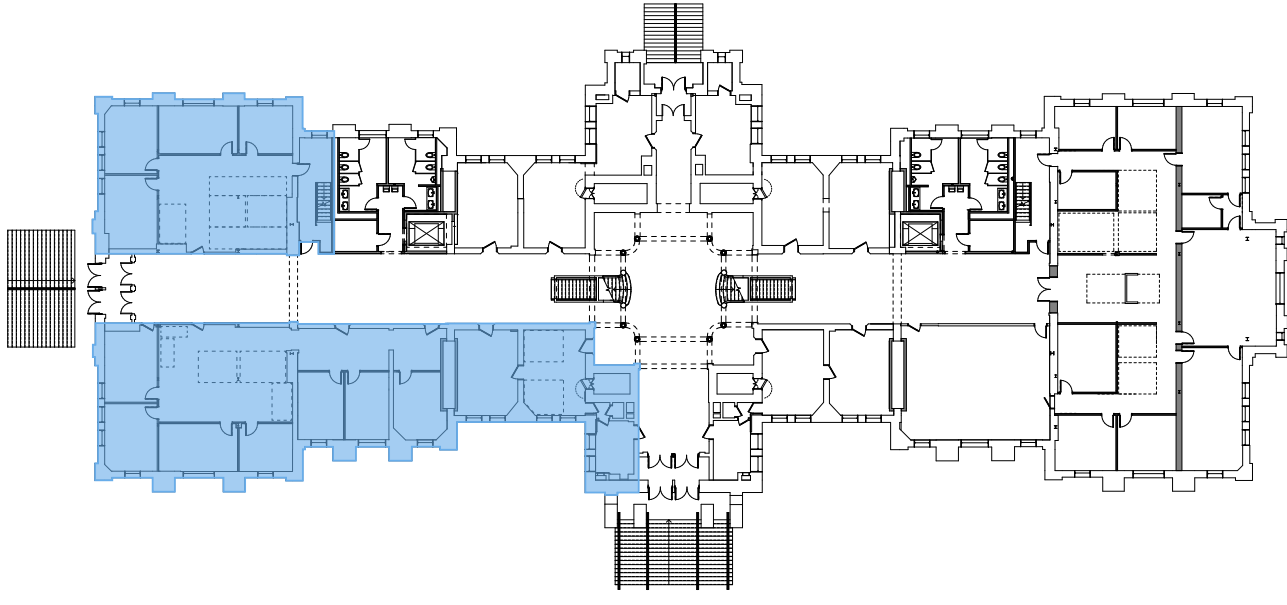


Figure 5.3.7.2: Proposed Space Allocation: Legislature and LSO - First Floor [Capitol]

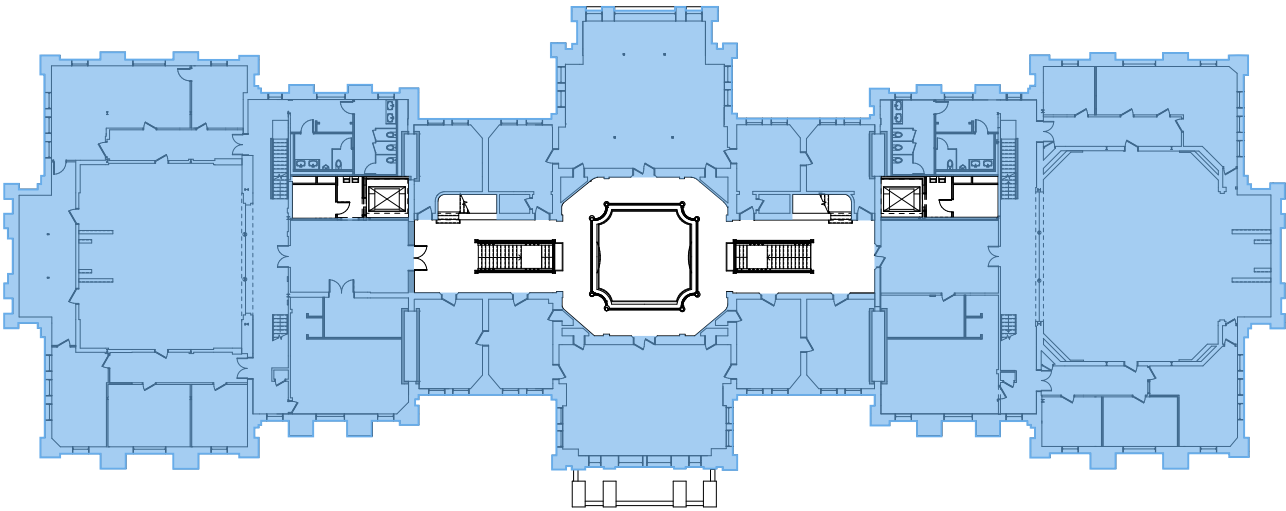


Figure 5.3.7.3: Proposed Space Allocation: Legislature and LSO - Second Floor [Capitol]

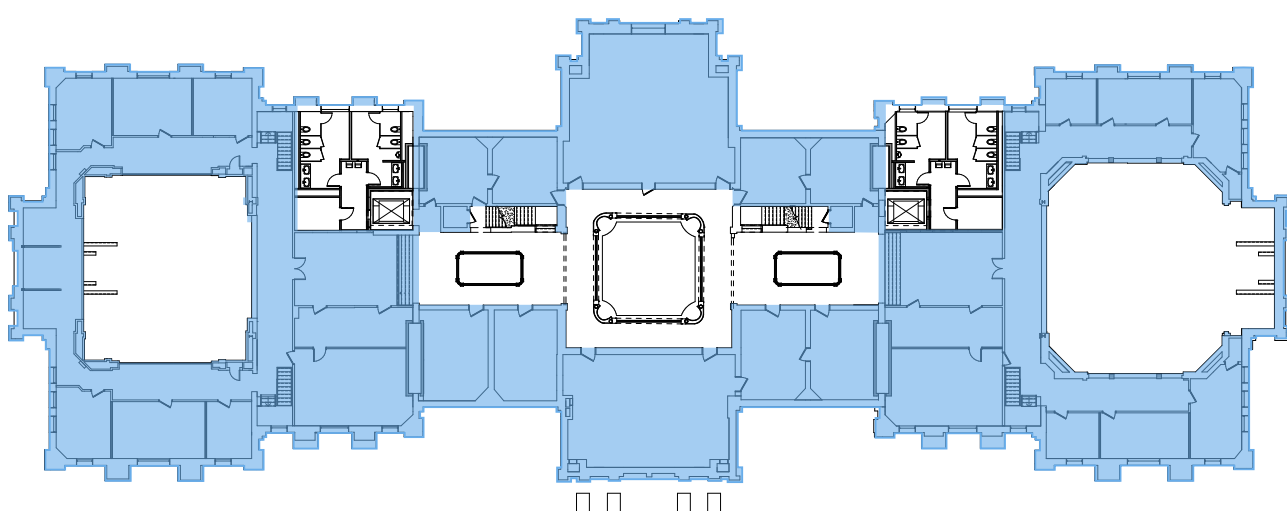


Figure 5.3.7.4: Proposed Space Allocation: Legislature and LSO - Third Floor [Capitol]



Note:
Items highlighted in dark orange represent spaces that have not been assigned.

					EXISTING		PROGRAM REQUEST			SCHEMATIC DESIGN				
Assigned					Room #	Capitol NASF	Occupancy		Total NASF	Assigned NASF	difference to existing	difference to program	Comments	
Program #	Bldg	Room #	Room Name				Typical	Peak						
201 LEGISLATURE														
Senate														
Senate Chamber, Galleries, and Lobbies														
201- 01	Cap	S200	Senate Chamber			1,839	30	100	1,839	1,823	-16	-16		
201- 02a	Cap	S204	Senate Chamber Lobby		2nd Floor	505	10	50	505	514	9	9		
201- 02b	Cap	S205	Member/Public Meeting Rm				3	10		189	189	189		
201- 03	Cap	S304	Senate Reception Lobby		3rd Floor	416	10	50	416	514	98	98		
201- 04			Senate Chamber Gallery			1,883	10	100	1,883	1,889	6	6	sum	
201- 04a	Cap	S301	Senate Chamber Gallery							400	400	400	Gallery 2,330 sf at Level I/II - Existing	
201- 04b	Cap	S302	Senate Chamber Gallery							673	673	673		
201- 04c	Cap	S303	Senate Chamber Gallery							397	397	397		
201- 04d	Cap	S305	Senate Chamber Gallery							419	419	419		
Senate Leadership Offices														
201- 05	Cap	S218	Leadership Secretary & Reception		S-4	212	1	2	Workstation +	220	203	-9	-17	
201- 06	Cap	S216	President		S-5	310	1	15	Office	450	320	10	-130	
201- 07	Cap	S217	Majority Floor Leader		S-3	147	1	5	Office	200	310	163	110	
201- 08	Cap	S316	Vice President		S-11	353	1	5	Office	200	224	-129	24	
201- 09	Cap	S320	Minority Floor Leader		<special desk>	S-17	231	1	9	Office	300	229	-2	-71
Senate Support														
201- 10a	Cap	S207	Senate Kitchenette / Break room		S-10	297	1	12		400	510	213	110	
201- 10b	Cap	S206	Private Telephone Rooms		4 rooms	na	184	1	3	160	77	-107	-83	
201- 11	Cap	S209	Senate Restrooms		varies	307	1	5		600	433	126	-167	
201- 12a	Cap	S214	Senate Attorney Room		S-9	318	5	20		500	624	306	124	
201- 12b	Cap	S213	Senate Attorney Conference Room		4-6 people		4	6		200	200	200	0	
201- 13	Cap	S305	Senate Reception				5	10			269	269	269	
201- 14a	Cap	S215	Copy / Work Room		Bill Status	174	3	6		300	505	331	205	
201- 14b	Cap	S307	Chamber Back Room		S-7	140	3	6			526	386	526	
201- 15	Cap	S314	Chief Clerk		@ Chamber + Office	S-8	174	1	3	Office	150	270	96	120
201- 15a	Cap	S313	Assistant Chief Clerk		@ Chamber					80	203		123	
201- 15b	Cap		Reader		@ Chamber									
201- 15c	Cap		Chamber Computer Staff		@ Chamber									
201- 15d	Cap		Chamber Computer Staff		@ Chamber									
201- 16a	Cap		Staff Supervisor		@ Copy Room	S-6	346						Reported at 150 sf in Level I/II Program Request	
201- 16b	Cap		Assistant Staff Supervisor		@ Copy Room	S-6							Reported at 80 sf in Level I/II Program Request	
201- 17	Cap	S317	Small Conference Room		4-6 people		4	6		200	318	318	118	
201- 18	Cap	S318	Senate A/V				1	2			155	155	155	
201- 19			General Storage			varies	54			100	0	-100		
Assigned Circulation														
		S203	Circulation 1.F							246	246	246	100%	
		S202	Circulation 1.G							686	686	686	100%	
		S201	Circulation 1.H							251	251	251	100%	
Subtotal						7,890	97	425	8,703	11,488	3,598	2,785		



5.3.9 Legislature

Assigned				EXISTING		PROGRAM REQUEST			SCHEMATIC DESIGN			
Program #	Bldg	Room #	Room Name	Room #	Capitol NASF	Occupancy		Total NASF	Assigned NASF	difference to existing	difference to program	Comments
						Typical	Peak					
House												
House Chamber, Galleries, and Lobbies												
201- 21	Cap	H200	House Chamber		2,550	69	100	2,550	2,516	-34	-34	
201- 22a	Cap	H204	House Chamber Lobby	2nd Floor	531	10	30	531	516	-15	-15	
201- 22b	Cap	H205	Member/Public Meeting Rm			3	10		199	199	199	
201- 23	Cap	H304	House Reception Lobby	3rd Floor	448	10	20	448	520	72	72	
201- 24			House Chamber Gallery		1,274	10	100	1,274	1,282	8	8	sum
201- 24a	Cap	H302	House Chamber Gallery						678	678	678	Gallery 1,083 sf in Level I/II - Existing
201- 24b	Cap	H301	House Chamber Gallery						302	302	302	
201- 24c	Cap	H303	House Chamber Gallery						302	302	302	
House Leadership Offices												
201- 25	Cap	H219	Leadership Secretary & Reception	H-5	146	1	2	Workstation+	220	157	11	-63
201- 26	Cap	H217	Speaker	H-5.1	141	1	15	Office	450	343	202	-107
201- 27	Cap	H218	Majority Floor Leader	H-6	136	1	5	Office	200	261	125	61
201- 28	Cap	H317	Speaker Pro Tem	H-2	156	1	5	Office	200	269	113	69
201- 29	Cap	H322	Minority Floor Leader	H-14	273	1	9	Office	300	252	-21	-48
House Support												
201- 30a	Cap	H207	House Kitchenette / Break room	H-7	349	1	12	550	511	162	-39	
201- 30b	Cap	H206	Private Telephone Rooms	4 rooms	na @ 2	95	1	3	160	83	-12	-77
201- 31	Cap	H209	House Restrooms	varies	253	1	5	600	454	201	-146	
201- 32a	Cap	H214	House Attorney Room	H-3	271	5	20	500	541	120	41	at Chamber
			House Attorney Room	H-4	150							
201- 32b	Cap	H213	House Attorney Conference Room	4-6 people		4	6	200	149	149	-51	at Chamber - Attorney Use
201- 33	Cap	H305	House Reception	na	184	5	10	250	269	85	19	
201- 34	Cap	H307	Copy / Work Room	H-1	344	3	6	300	520	176	220	
201- 35			House Admin Staff	215	287				0	0	0	
201- 36	Cap	H314	Chief Clerk	S Hall	190	1	3	Office	150	255	65	105
201- 36a	Cap	H313	Administrative Assistant	H-1.4	163	1	2	Workstation	100	138	-25	38
201- 36b			Clerk's Storage	S Hall				80	0	0	-80	
201- 37	Cap	H318	Small Conference Room	4-6 people		4	6	200	243	243		43
201- 38	Cap	H319	House AV			1	2		145	145		145
201- 39			General Storage	varies	180	1	4	300	0	0	-300	
201- 40a			Session Only Support	213		1	2	Workstation	60	0	0	-60 Deleted at Level III
201- 40b			Session Only Support	213		1	2	Workstation	60	0	0	-60 Deleted at Level III
201- 40c			Session Only Support	213		1	2	Workstation	60	0	0	-60 Deleted at Level III
201- 40d			Intern Office	na				200	0	0	-200	Deleted at Level III
Assigned Circulation												
		H203	Circulation 1.I						254	254	254	100%
		H202	Circulation 1.J						682	682	682	100%
		H201	Circulation 1.K						195	195	195	100%
Subtotal					8,121	138	381	9,943	10,754	2,633	811	

Note:
Items highlighted in dark orange represent spaces that have not been assigned.



Note:
Rows highlighted in light orange represent spaces that are assigned in a building other than the Capitol.

Assigned				EXISTING		PROGRAM REQUEST		SCHEMATIC DESIGN			
Program #	Bldg	Room #	Room Name	Room #	Capitol NASF	Occupancy Typical Peak	Total NASF	Assigned NASF	difference to existing	difference to program	Comments
Committee Rooms											
Committee Rooms											
201- 41	Cap	305	Joint Appropriations Committee Room	204	1,092	10 80	1,500	1,353	261	-147	
201- 41a	Cap	342	Copy / Work Room	na	105	3 6	200	254	149	54	
201- 41b	Cap	341	JAC Break Rm			1 10		242	242		
201- 42	Cap	203	Standard Committee Room - shared			10 61	1,000	1,091	1,091	91	
201- 43	Cap	205	Standard Committee Room - shared			10 61	1,000	1,337	1,337	337	
201- 44	Cap	303	Standard Committee Room - shared			10 61	1,000	1,097	1,097	97	
201- 45	Hersc	CONN	Standard Committee Room - shared			10 61	1,000	968	968	-32	
201- 46	Hersc	CONN	Standard Committee Room - shared			10 61	1,000	968	968	-32	
201- 47	Hersc	CONN	Standard Committee Room - shared			10 61	1,000	1,213	1,213	213	
201- 48	Hersc	CONN	Standard Committee Room - shared			10 61	1,000	1,213	1,213	213	
201- 54	Hersc	CONN	Breakout Area			5 60	0	886	886	886	
201- 55	Hersc	CONN	Breakout Area			5 60	0	886	886	886	
			Existing Senate Judiciary	S-1	372						
			Existing Senate Transportation, Recreation, Wildlife	S-14	405						
			Existing Senate Appropriations	S-13	393						
			Existing Senate Agriculture, Public Lands & Water	S-15	399						
			Existing Senate Revenue	S-16	301						
			Existing Senate Minerals Business	S-18	302						
			Existing Senate Corporations Elections	S-19	425						
			Existing Senate Labor Health & Infrastructure	S-20	379						
			Existing Senate Education								
			Existing Senate Travel								
			Existing House Judiciary	H-8	363						
			Existing House Appropriations	204							
			Existing House Education	H-10	401						
			Existing House Travel	H-10							
			Existing House Revenue	H-11	398						
			Existing House Agriculture	H-11							
			Existing House Labor	H-17	407						
			Existing House Transportation	H-17							
			Existing House Minerals	H-18	396						
			Existing House Corporations	H-18							
			Existing House Journal								
			Existing House Rules								
201- 49	Hersc	1st Floor	Large Public Hearing Room	302	1,083	10 80	1,500	0	-1,083	-1500	Existing SF in the Capitol - 1,900 sf in Level I/II Prog Request
Legislative Chairman Offices											
201- 50a	Hersc	CONN	Shared Chairman Office	Judiciary		2 4	Office 200	141	141	-59	
201- 50b	Hersc	CONN	Shared Chairman Office	Appropriations		2 4	Office 200	141	141	-59	
201- 50c	Hersc	CONN	Shared Chairman Office	Education		2 4	Office 200	141	141	-59	
201- 50d	Hersc	CONN	Shared Chairman Office	Travel		2 4	Office 200	141	141	-59	
201- 50e	Hersc	CONN	Shared Chairman Office	Revenue		2 4	Office 200	141	141	-59	
201- 50f	Hersc	CONN	Shared Chairman Office	Agriculture, Public Lands & Water	H-16	267	Office 200	141	-126	-59	
201- 50g	Hersc	CONN	SharedChairman Office	Labor Health & Infrastructure	H-15	256	Office 200	141	-115	-59	
201- 50h	Hersc	CONN	Shared Chairman Office	Transportation, Recreation, Wildlife	H-13	253	Office 200	141	-112	-59	
201- 50i	Hersc	CONN	Shared Chairman Office	Minerals Business	H-12	141	Office 200	141	0	-59	
201- 50j	Hersc	CONN	Shared Chairman Office	Corporations Elections	H-8 / ??	2 4	Office 200	141	141	-59	
201- 51	Cap		JAC Secretaries	2 Secretaries @ JAC Room		2 10	0	0	0	0	
201- 52	Hersc	CONN	Senate Committee Secretary Pool	5 Secretaries		2 10	650	976	976	326	
201- 53	Hersc	CONN	House Committee Secretary Pool	5 Secretaries		2 6	400	976	976	576	
			Capitol circulation (calculation)				940				3,692 sf at Level I/II Program Request
			Herschler circulation (calculation)				1,710				
Assigned Circulation											
Circulation								0	0	0	
Capitol - Subtotal					8,138	46 289	5,640	5,374	-2,764	-266	
Herschler - Subtotal						74 300	10,260	9,496	8,496	-764	



5.3.11 Legislature

Assigned				EXISTING		PROGRAM REQUEST			SCHEMATIC DESIGN			
Program #	Bldg	Room #	Room Name	Room #	Capitol NASF	Typical	Peak	Total NASF	Assigned NASF	difference to existing	difference to program	Comments
Legislative Services Office (LSO)												
Administration												
201- 61	Cap	117	Public Reception for Legislature	213	1,310	1	5	170	206	-1,104	36	250 sf in Level I/II Program Request
201- 61a	Cap	132.5	Administrative Specialists	213		1	2	Workstation 80	81	81	1	
201- 61b	Cap	133.6	Administrative Specialists	213		1	2	Workstation 80	81	81	1	
201- 61c	Cap	119	Public Bills Room			1	2		151	151	151	
201- 62	Cap	116	Library & Document Management & Filing (Admin)	na @ 3	507	1	9	250	324	-183	74	
201- 63	Cap	124	Copy / Work Room (Administration)	213	285	3	6	350	352	67	2	Potentially will be divided into Office + Copy
201- 64a	Cap	133.8	Workstation			1	2		67	67	67	
201- 64b	Cap	117.2	Workstation			1	2		84	84	84	
201- 64c	Cap	133.7	Workstation			1	2		81	81	81	
201- 64d	Cap	117.1	Librarian						81	81	81	
201- 65	Cap	132.2	Legislative Service Office Director	212	283	1	9	Office 300	231	-52	-69	
201- 66	Cap	132.3	Assistant Director for Administration	202	347	1	7	Office 250	245	-102	-5	
201- 67	Cap	122	LSO Information Officer	203	208	1	5	Office 200	203	-5	3	
201- 68	Cap	123	Associate LSO Information Officer	215.1	145	1	5	Office 200	195	50	-5	
201- 69	Cap	132.4	Special Projects Manager						167	167	167	
201- 70	Cap	132.1	Fiscal Officer	213		1	5	Office 200	251	251	51	
201- 71a	Cap	132.5	Executive Assistant	213		1	2	Workstation 100	95	95	-5	
201- 72	Cap	133.4	Legislative Counsel	206	347	1	7	Office 250	231	-116	-19	
201- 73	Cap	133.3	Bill Processing Supervisor	214	280	1	3	Office 150	248	-32	98	
201- 74	Cap	133.2	Bill Processing Specialist						168	168	168	
201- 75	Cap	B31.13	Small Conference Room (Administration)	na @ 2	129	4	6	200	272	143	72	
201- 76			Future Office					150	0	0	-150	Deleted at Level III
201- 77			Future Workstation					80	0	0	-80	Deleted at Level III
201- 93c	Cap	133.9	Copy Area						111	111	111	
201- 76	Cap	118	Storage			1	2		49	49	49	
circulation (calculation)								602				408 sf in Level I/II Program Request
Assigned Circulation												
		B30	Circulation 1.A						217	217	217	10%
		B32	Circulation 1.L						21	21	21	10%
		132	Circulation 1.C						647	647	647	100%
		121	Circulation 1.D						264	264	264	100%
		133	Circulation 1.E						410	410	410	90%
		127	Circulation 1.M						212	212	212	90%
Subtotal					3,841	24	83	3,612	5,744	1,903	2,132	

Note:
Items highlighted in dark orange represent spaces that have not been assigned.

Assigned				EXISTING		PROGRAM REQUEST			SCHEMATIC DESIGN			
Program #	Bldg	Room #	Room Name	Room #	Capitol NASF	Typical	Peak	Total NASF	Assigned NASF	difference to existing	difference to program	Comments
Legal Services Division												
201- 81	Cap	216	Legal Section Manager			1	5	Office 200	338	338	138	"Staff Attorney" in Level I/II
201- 82a	Cap	211	Staff Attorney	210	252	1	5	Office 200	283	31	83	
201- 82b	Cap	212	Staff Attorney	209	193	1	5	Office 200	279	86	79	
201- 82c	Cap	242	Staff Attorney	S-1	372	1	5	Office 200	251	-121	51	
201- 82d	Cap	241	Staff Attorney	311	261	1	5	Office 200	281	20	81	
201- 82e	Cap	246	Staff Attorney	H-8	363	1	5	Office 200	324	-39	124	
201- 82f	Cap	247	Staff Attorney	301	348	1	5	Office 200	326	-22	126	
201- 82g	Cap	217	Staff Attorney			1	5	Office 200	340	340	140	
circulation (calculation)								320				370 sf in Level I/II Program Request
Subtotal					1,789	8	40	1,920	2,422	633	502	



				EXISTING		PROGRAM REQUEST		SCHEMATIC DESIGN				
Assigned				Room #	Capitol NASF	Occupancy		Total NASF	Assigned NASF	difference to existing	difference to program	
Program #	Bldg	Room #	Room Name			Typical	Peak					Comments
Budget & Fiscal Section												
201- 83	Cap	316	LSO Budget & Fiscal Manager	305	269	1	5	Office	200	353	84	153
201- 84a	Cap	317	LSO Senior Fiscal Analyst	307	256	1	3	Office	150	340	84	190
201- 84b	Cap	311	LSO Senior Fiscal Analyst	na @ 3	233	1	3	Office	150	250	17	100
201- 84c	Cap	312	LSO Fiscal Analyst	na @ 3	168	1	3	Office	150	255	87	105
circulation (calculation)									130			
Subtotal					926	4	14		780	1,198	272	418

Note:
Items highlighted in dark orange represent spaces that have not been assigned.

				EXISTING		PROGRAM REQUEST			SCHEMATIC DESIGN			
Assigned						Occupancy						
Program #	Bldg	Room #	Room Name	Room #	Capitol NASF	Typical	Peak	Total NASF	Assigned NASF	difference to existing	difference to program	Comments
<i>School Finance Section</i>												
201- 85	Cap	347	School Finance Manager	205	342	1	7	Office 250	344	2	94	
201- 86	Cap	346	School Finance Analyst	B71	230	1	3	Office 150	341	111	191	
201- 86			School Finance Analyst	na @ 3	257	1	5	Office 200	0	-200	-200	Has Existing SF
circulation (calculation)								120			-120	
Subtotal					829	3	15	720	685	-144	-35	

				EXISTING		PROGRAM REQUEST			SCHEMATIC DESIGN			
Assigned						Occupancy						
Program #	Bldg	Room #	Room Name	Room #	Capitol NASF	Typical	Peak	Total NASF	Assigned NASF	difference to existing	difference to program	Comments
Information Technology Section												
201- 87	Cap	B26	Information Technology Manager	B49	343	1	5	Office 200	198	-145	-2	
201- 88a	Cap	B25	Computer Programmer	B72	171	1	2	Office 150	164	-7	14	100 sf workstation in Level I/II Program Request
201- 88b	Cap	B24	Associate Computer Programmer	B75	142	1	2	Office 150	154	12	4	100 sf workstation in Level I/II Program Request
201- 88c	Cap	B23	Information Technology Specialist	B73	174	1	2	Office 150	121	-53	-29	100 sf workstation in Level I/II Program Request
201- 88d			Information Technology Specialist	B78	167			Workstation 100	0	-167	-100	Has Existing Sf
201- 89	Cap	B22	Equipment Workroom & Training			1	7	250	164	164	-86	
201- 91a			Server	B69	143	1	2	200	0	-143	-200	Has Existing Sf
circulation (calculation)								240				170 sf in Level I/II Program Request
Assigned Circulation												
	B21		Circulation 1.B						192	192	192	100%
Subtotal					1,140	6	20	1,440	993	-147	-447	



5.3.13 Legislature

				EXISTING		PROGRAM REQUEST				SCHEMATIC DESIGN			
Assigned						Occupancy							
Program #	Bldg	Room #	Room Name	Room #	Capitol NASF	Typical	Peak		Total NASF	Assigned NASF	difference to existing	difference to program	Comments
Research Section													
201- 91	Cap	B31.9	Research Manager	B66	200	1	5	Office	200	205	5	5	
201- 92a	Cap	B31.10	Senior Research Analyst	B74	133	1	3	Office	150	157	24	7	
201- 92b	Cap	B31.11	Research Analyst	B68	202	1	3	Office	150	136	-66	-14	
201- 92c	Cap	B31.8	Associate Research Analyst			1	3	Office	150	171	171	21	
201- 92d			Future Associate Research Analyst			1	3	Office	150	0	0	-150	
201- 92e			Future Associate Research Analyst			1	3	Office	150	0	0	-150	
201- 92f			Intern Office			1	3	Office	150	0	0	-150	
circulation (calculation)									220				
Assigned Circulation													
	B30		Circulation 1.A							217	217	217	20%
	B32		Circulation 1.L							41			20%
Subtotal					535	7	23		1,320	927	392	-393	

Note:
Items highlighted in dark orange represent spaces that have not been assigned.

				EXISTING		PROGRAM REQUEST			SCHEMATIC DESIGN				
Assigned				Room #	Capitol NASF	Occupancy		Total NASF	Assigned NASF	difference to existing	difference to program		
Program #	Bldg	Room #	Room Name			Typical	Peak					Comments	
Program Evaluation Section													
201- 93	Cap	B31.3	Program Evaluation Manager	B65	163	1	7	Office 200	216	53	16		
201- 94a	Cap	B31.2	Program Evaluator			1	3	Office 150	223	223	73		
201- 94b	Cap	B31.1	Program Evaluator	B63	219	1	3	Office 150	155	-64	5		
201- 94c	Cap	B31.7	Program Evaluator	B62	85	1	3	Office 150	176	91	26		
201- 94d	Cap	B31.6	Program Evaluator	B61	160	1	3	Office 150	158	-2	8		
201- 94e	Cap	B31.5	Program Evaluator	B59	147	1	3	Office 150	169	22	19		
201- 94f	Cap	B31.4	Program Evaluator	B58	204	1	3	Office 150	169	-35	19		
201- 94g			Program Evaluator	B64	263	1	3	Office 150	0	-263	-150	Has Existing SF	
201- 95	Cap	B31.12	Copy / Work Room (Program Evaluation)			2	4	200	258	258	58		
201- 95	Cap	B31.15	Conference Room (Program Evaluation)	B60	167			200	248	81	48		
circulation (calculation)													
Assigned Circulation													
	B30		Circulation 1.A						760	760	760	70%	
	B32		Circulation 1.L						144	144	144	70%	
Subtotal					1,408	10	32	1,650	2,675	1,267	1,025		



Note:
Items highlighted in dark orange represent spaces that have not been assigned.
Rows highlighted in light orange represent spaces that are assigned in a building other than the Capitol.

				EXISTING		PROGRAM REQUEST			SCHEMATIC DESIGN			
Assigned				Room #	Capitol NASF	Occupancy		Total NASF	Assigned NASF	difference to existing	difference to program	
Program #	Bldg	Room #	Room Name			Typical	Peak					Comments
General Support												
201- 96	Cap		LSO Kitch/Break			1	10		0	0	0	
201- 97a	Cap	B31.14	Large Conference Room (Administration)	8-10 people	B67	449	8	10	350	273	-176	-77
201- 97b	Cap	135.5	Medium Conference Room	8-10 people			8	10	350	248	248	-102
201- 97c			Large Conference Room	8-10 people					350	0	0	-350
201- 99			General Storage		varies	0	1	4	750	0	0	-750
201- 99a	Hersc	CONN	Storage						0	325	325	325
201- 99b	Hersc	CONN	Storage						0	325	325	325
201- 99c			Storage						0	0	0	0
LSO Support circulation (calculation)								250				Deleted at Level III
Assigned Circulation												
	133		Circulation 1.E						46	46	46	10%
	127		Circulation 1.M						24			10%

				EXISTING		PROGRAM REQUEST		SCHEMATIC DESIGN				
Assigned				Room #	Occupancy		Total NASF	Assigned NASF	difference to existing	difference to program		
Program #	Bldg	Room #	Room Name		Typical	Peak					Comments	
Capitol - Subtotal					35,066	361	1,356	37,778	42,781	7,715	5,003	
Herschler - Subtotal						74	300	10,260	10,146	10,146	-114	
Total					35,066	435	1,656	48,038	52,927	17,861	4,889	

Legislature Totals - Capitol and Herschler





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5.4 Power/Data Requirements

The following section outlines the basic power and data requirements for the various program types within the Capitol. The use of each space dictates these requirements, and thus the following section is divided into groups of similar program types.

The program groups include the following:

- Office / Workstation
- Conference / Committee Rooms / Chambers
- Break and Copy/Work Rooms
- Public Areas
- A/V / Telephone Rooms

Data is divided between Executive and Legislative uses. The Legislative lines are secure and accessible only to members and staff of the Legislature. The Executive lines provide data access for all other offices within the Capitol, and the public.

The quantity and type of data ports may vary based on the location and program of the space. Some spaces may have a combination of Executive and Legislative ports or be exclusively one or the other.

5.4.1 Power/Data Requirements: Office / Workstation

Offices and workstations are located throughout the Capitol; the below diagrams represent their locations.

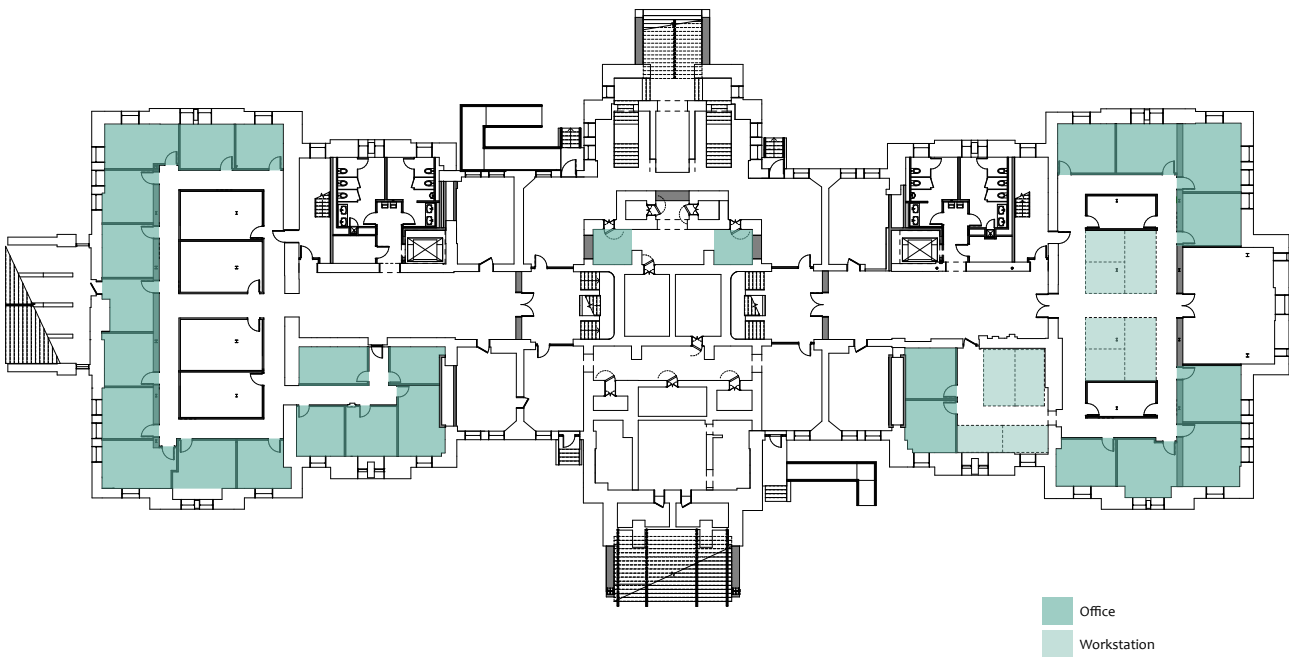


Figure 5.4.1.1: Proposed Office and Workstations - Garden Level [Capitol]

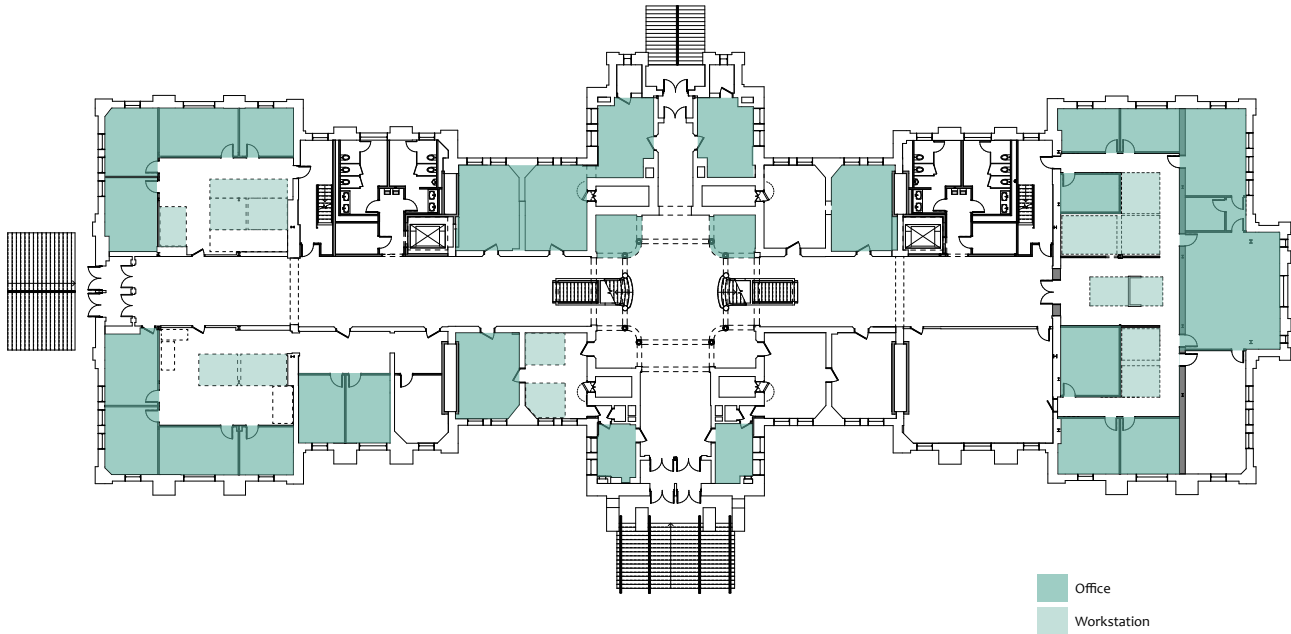


Figure 5.4.1.2: Proposed Office and Workstations - First Floor [Capitol]

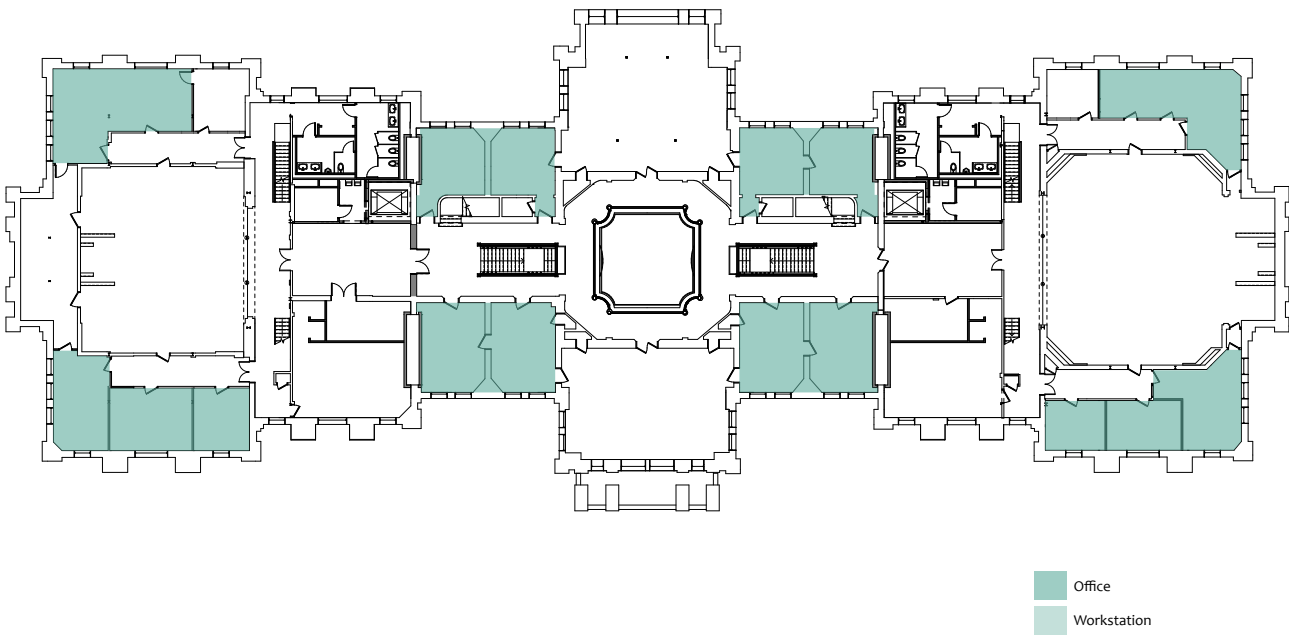


Figure 5.4.1.3: Proposed Office and Workstations - Second Floor[Capitol]

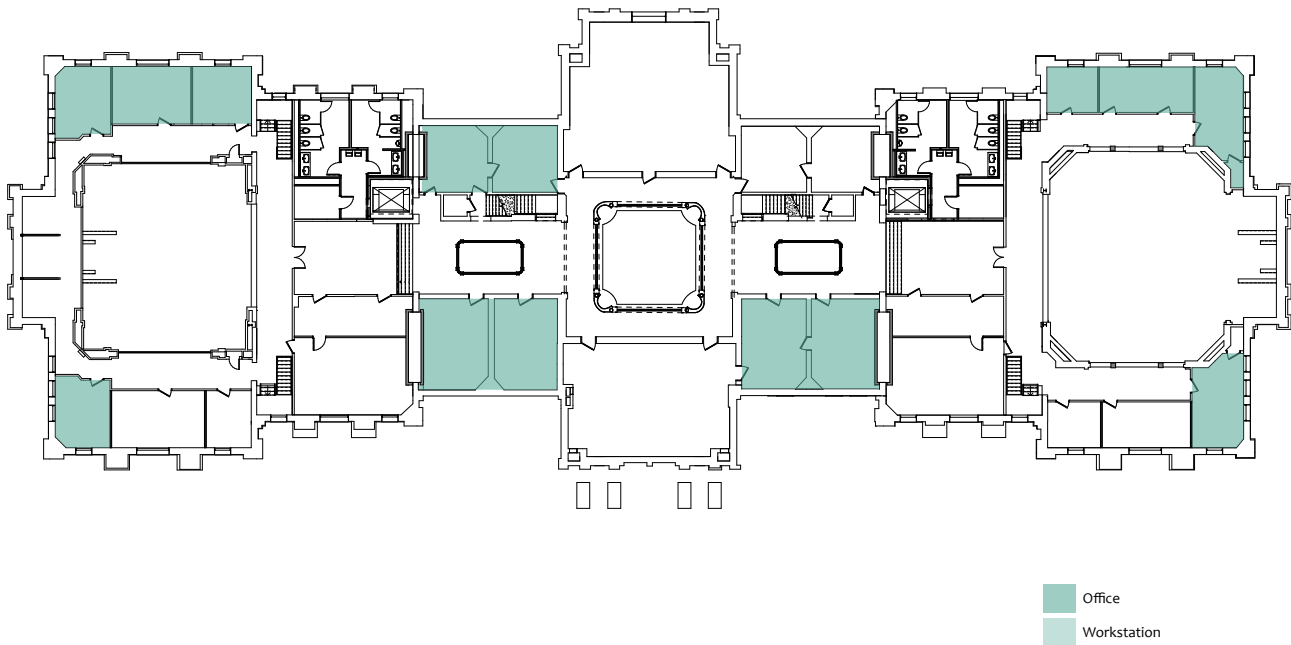


Figure 5.4.1.4: Proposed Office and Workstations - Third Floor [Capitol]



5.4.2 Power/Data Requirements: Office / Workstation

Office:

Offices will have either Legislative or Executive data ports, depending on their location and within which office suite they reside. Generally, offices should provide at least two (2) data ports and three (3) power outlets (preferably one per wall). These numbers may fluctuate where certain offices require additional power or data access; this will be developed further in Design Development.

Workstation:

Similar to offices, workstations will have either Executive or Legislative data ports, depending on their location. Generally, workstations should provide at least one (1) data port and two (2) power outlets. Workstation power outlets will be located on the floor versus the wall.



5.4.2 Power/Data Requirements: Conference / Committee Rooms / Chambers

Conference rooms occupy spaces on all four floors of the Capitol, while Committee Rooms reside on the second and third floors. The Senate and House Chambers lie on the first floor and require the most power and data capabilities.

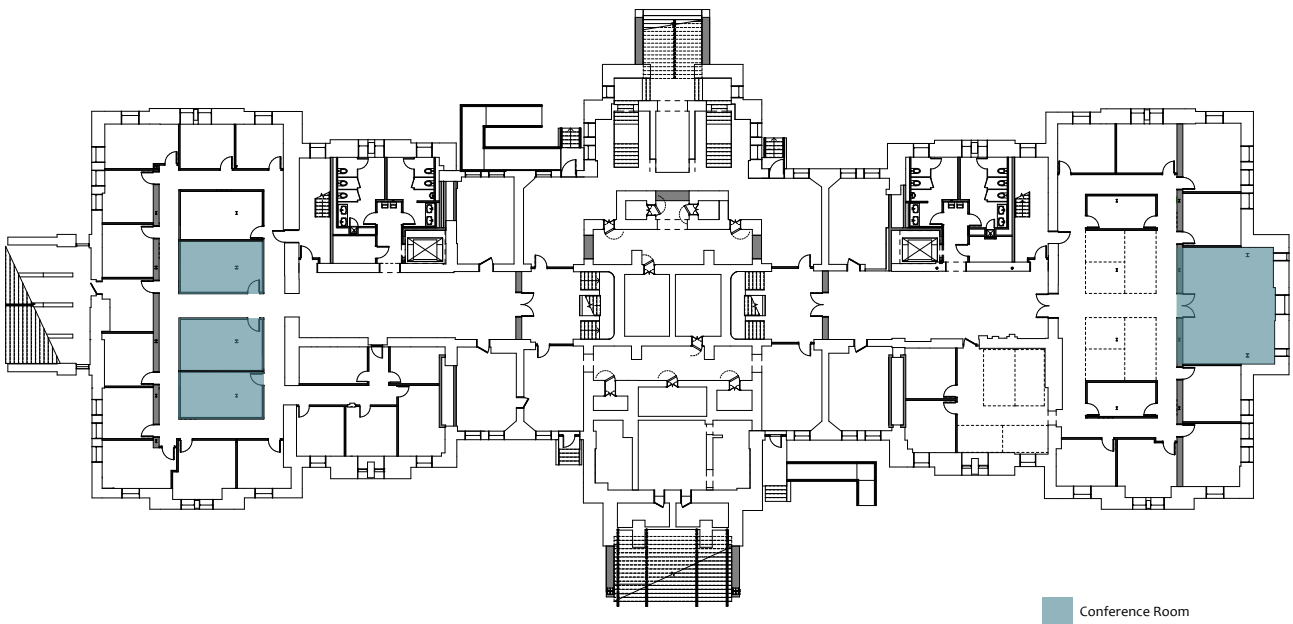


Figure 5.4.2.1: Proposed Conference Rooms- Garden Level [Capitol]

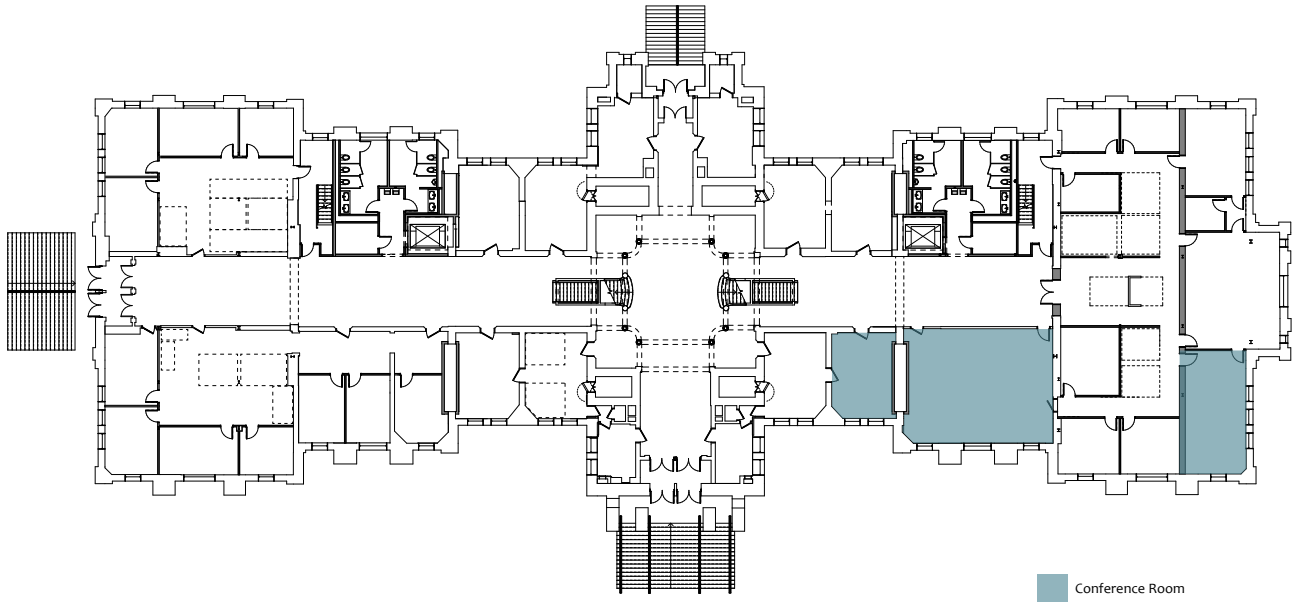


Figure 5.4.2.2: Proposed Conference Rooms - First Floor [Capitol]

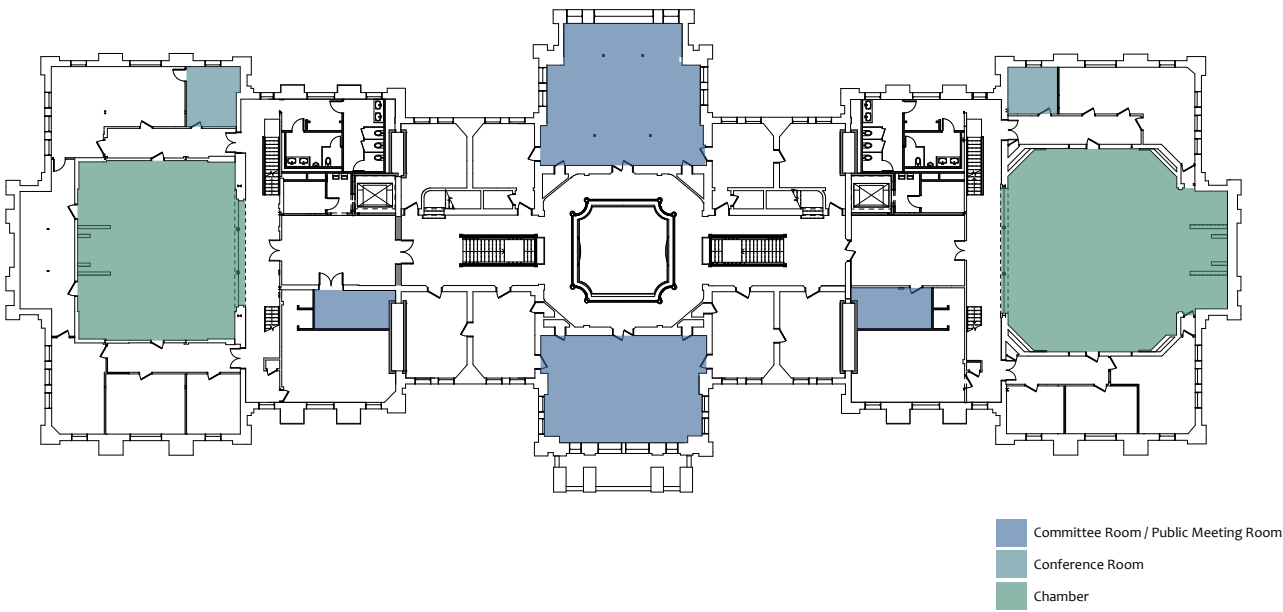


Figure 5.4.2.3: Proposed Conference / Committee Rooms - Second Floor [Capitol]

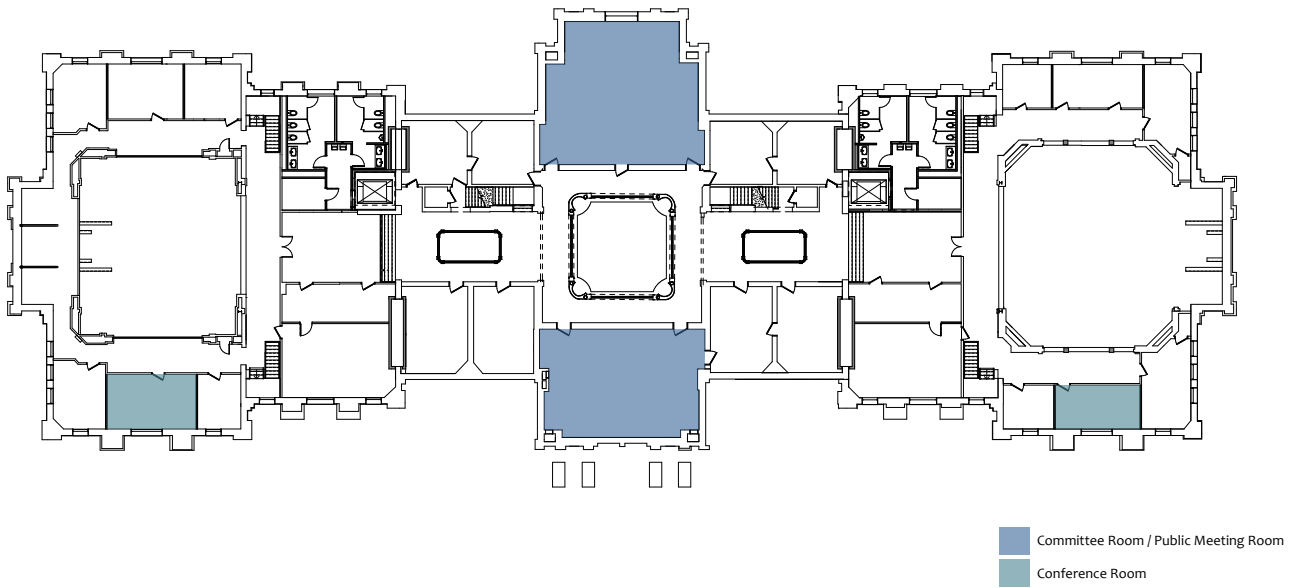


Figure 5.4.2.4: Proposed Conference / Committee Rooms - Third Floor [Capitol]



5.4.3 Power/Data Requirements: Conference / Committee Rooms / Chambers

Conference Room:

Conference Rooms should provide at least four (4) data ports, and will either be Executive or Legislative depending on their location.

At least six (6) outlets should be provided in conference rooms to ensure adequate power for equipment.

Conference rooms should also be equipped with audio and visual equipment such as a projector, video conferencing, and audio.

Committee Room:

Committee Rooms tend to be shared spaces within the Capitol and, therefore, should provide a balance of Executive and Legislative data ports, at least six (6) of each. There should be at least twelve (12) power outlets distributed around the room, to ensure adequate access to power for equipment.

Committee Rooms should also be equipped with audio and visual capabilities for large meetings, hearings, or training. This includes audio and video conferencing, a projector, speakers, and a microphone.

Legislative Chambers:

The Legislative Chambers require the most power and data access points due to the large number of people occupying the spaces. The Chambers should have full audio and visual capabilities; each desk requires a small speaker and microphone for the members of legislature.

There should be at least one (1) power outlet at each desk, with additional outlets on the perimeter walls.

Data ports should be located at each desk (Legislative), with additional ports on surrounding walls. There should be at least ten (10) Executive ports provided for the public or those not members of Legislature.



5.4.4 Power/Data Requirements: Break and Copy / Work Rooms

Copy/work and Kitchen/Break rooms are located throughout the Capitol, typically associated with a specific office. These spaces will require unique power and data capabilities to accomodate equipment and frequency of use.

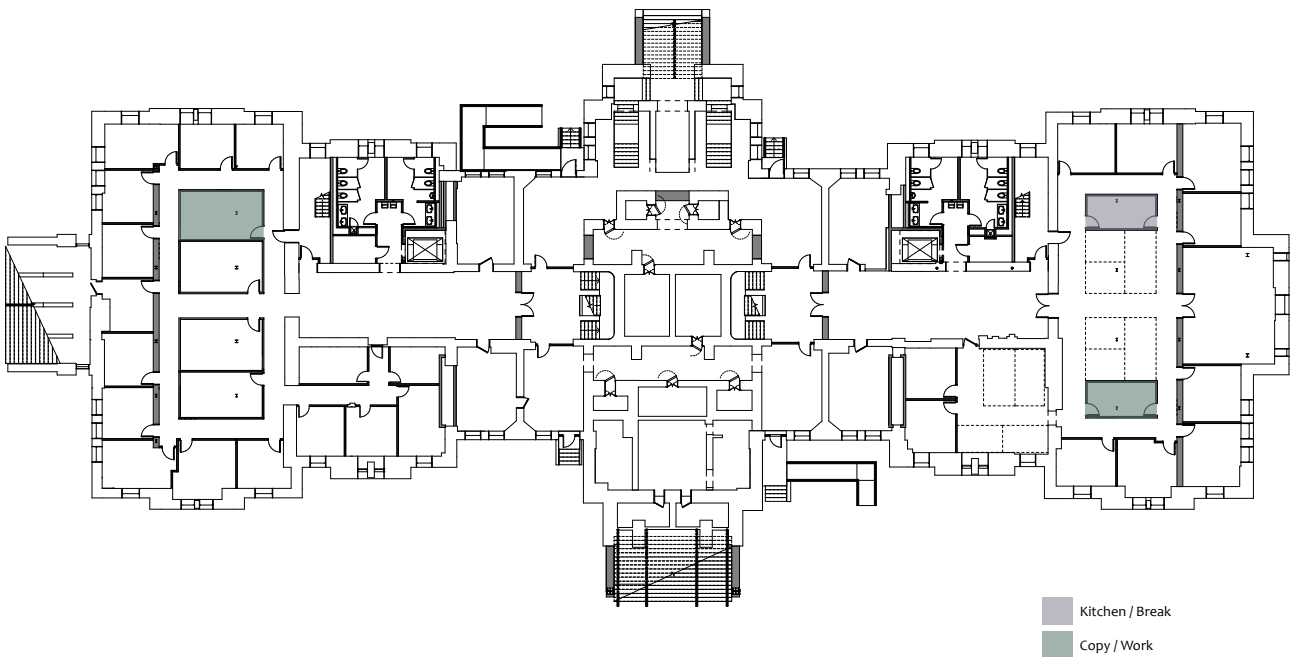


Figure 5.4.4.1: Proposed Kitchen/Break and Copy/Work Rooms - Garden Level [Capitol]

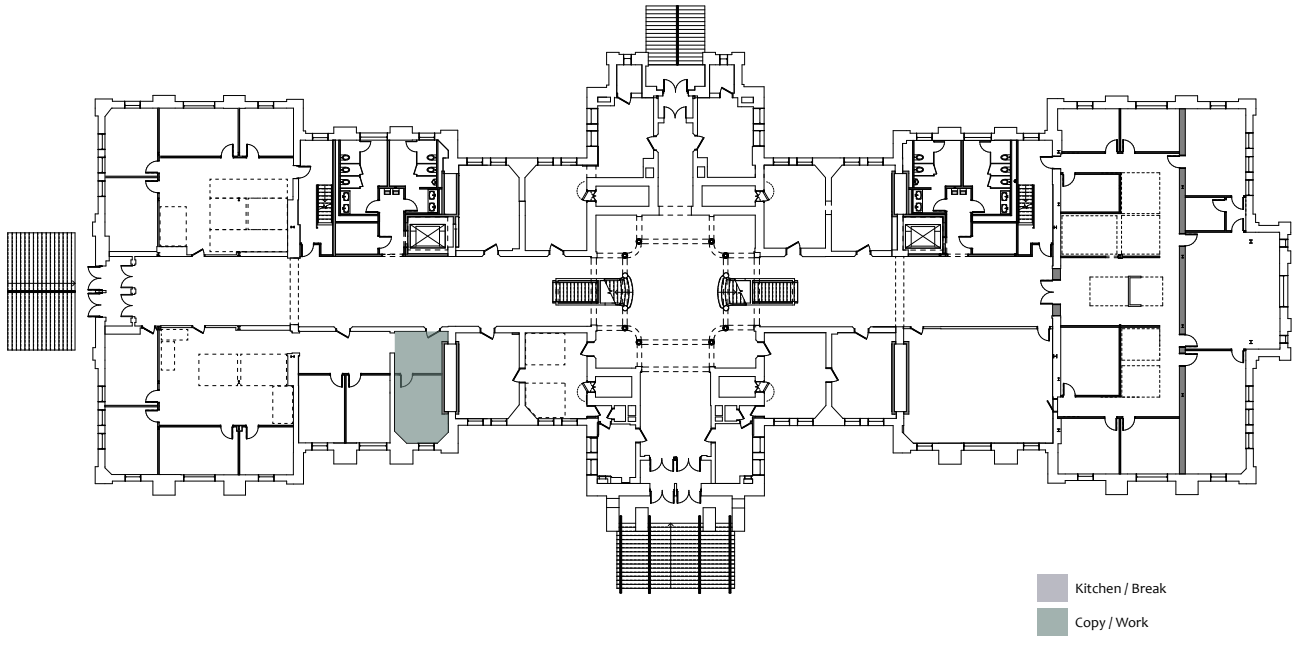


Figure 5.4.4.2: Proposed Kitchen/Break and Copy/Work Rooms - First Floor [Capitol]

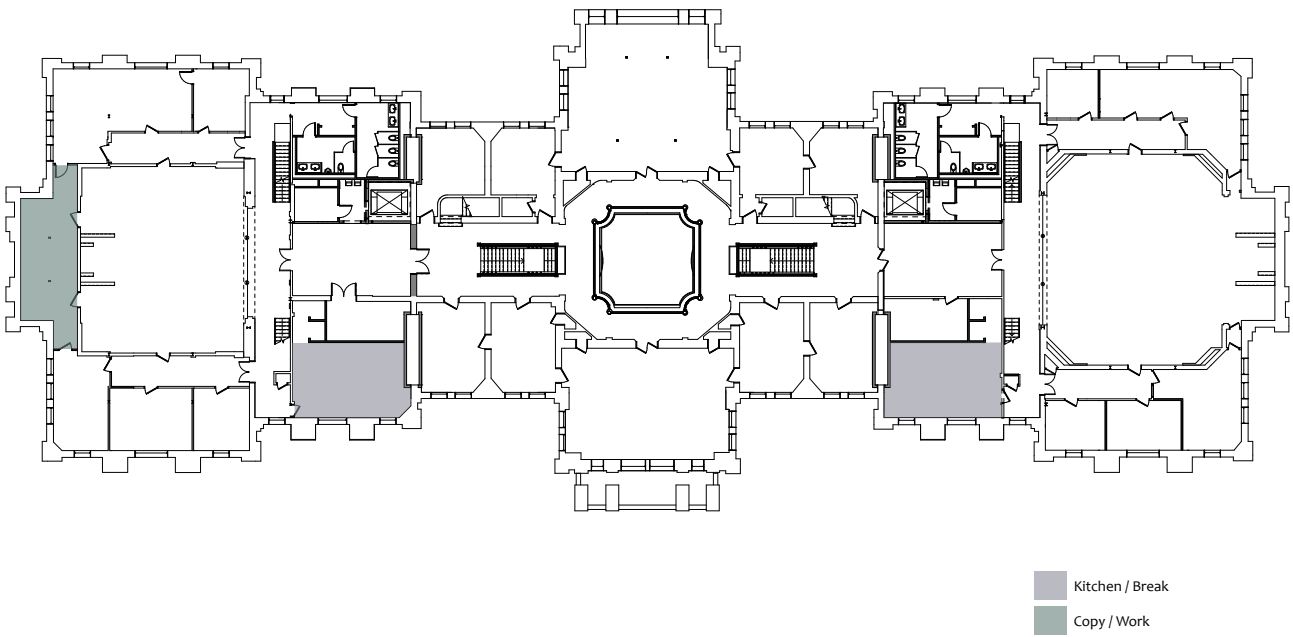


Figure 5.4.4.3: Proposed Kitchen/Break and Copy/Work Rooms - Second Floor [Capitol]

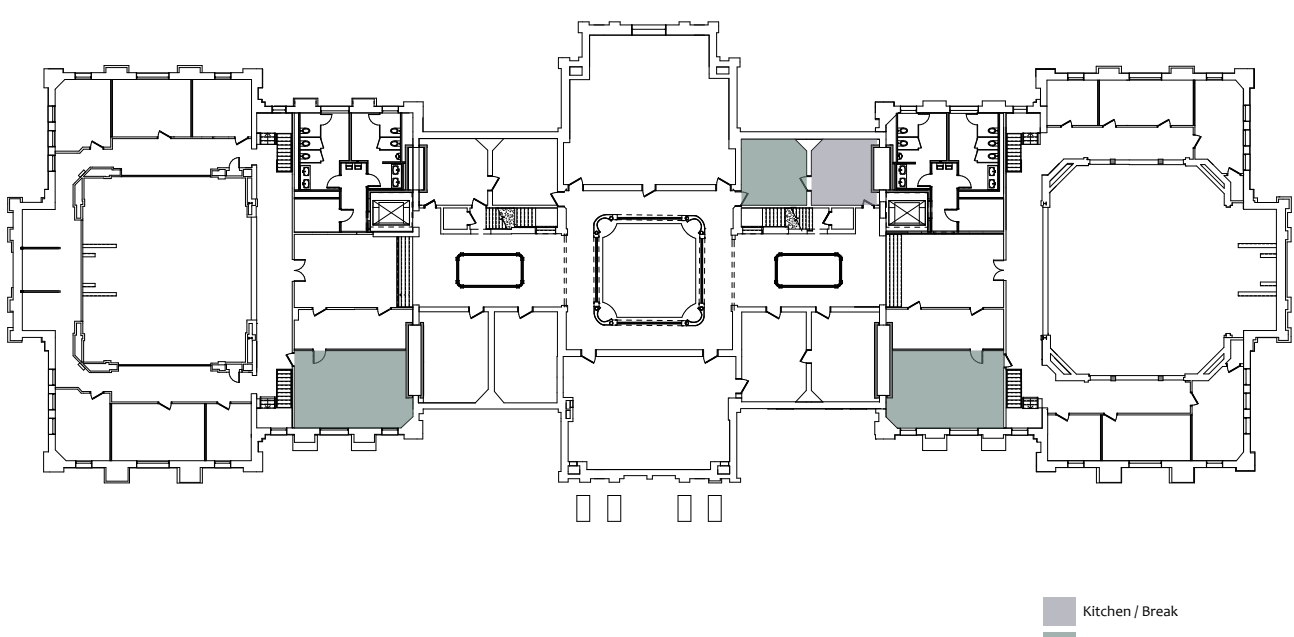


Figure 5.4.4.4: Proposed Kitchen/Break and Copy/Work Rooms - Third Floor [Capitol]



5.4.5 Power/Data Requirements: Break and Copy / Work Rooms

Copy / Work Room:

Copy/ Work Rooms are located within various departments throughout the Capitol. The data port type (whether Executive or Legislative) will be determined based on where the space is located.

Power is of particular importance in the Copy / Work Rooms. Adequate outlets should be provided for multiple copiers and additional open outlets for miscellaneous power needs.

Kitchen / Break Room:

Similar to the Copy / Work Room, the Kitchen / Break Rooms will provide either Executive or Legislative data ports, depending the office in which they reside. Data requirements are lower in these spaces, but should still be provided for staff.

Adequate power outlets should be provided for kitchen appliances and additional open outlets for miscellaneous power needs.



5.4.6 Power/Data Requirements: Public Areas

The below diagrams identify public spaces, reception and lobbies. These spaces should provide power and data access to the public in addition to government offices.

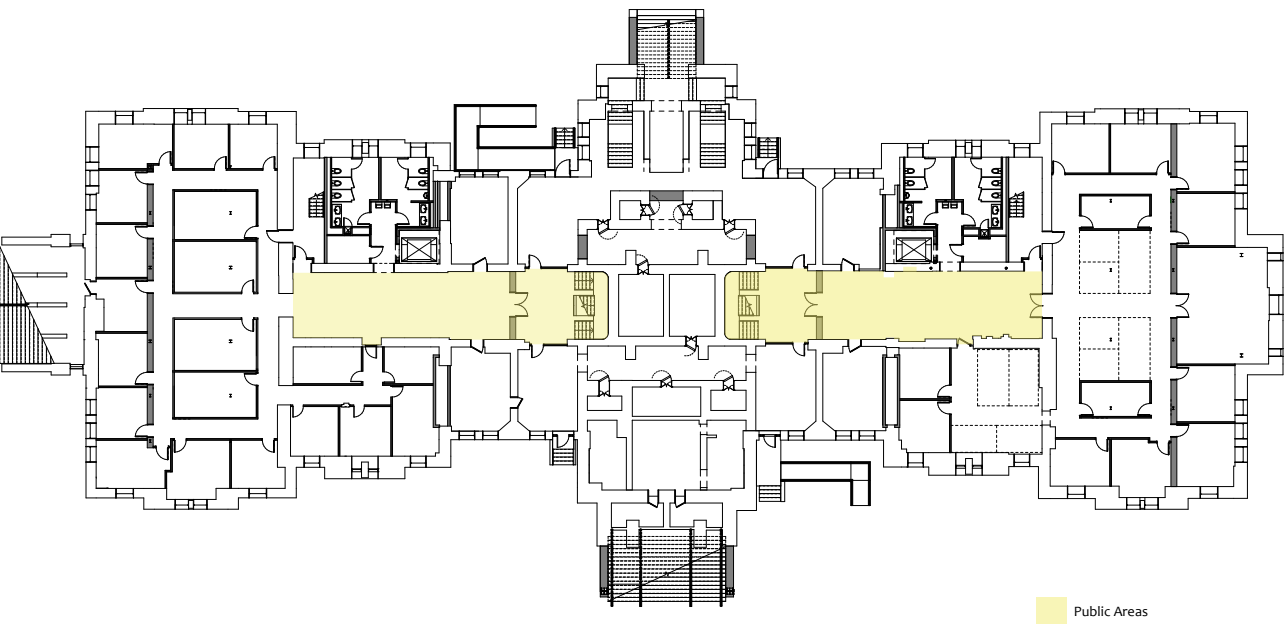


Figure 5.4.6.1: Public Areas - Garden Level [Capitol]

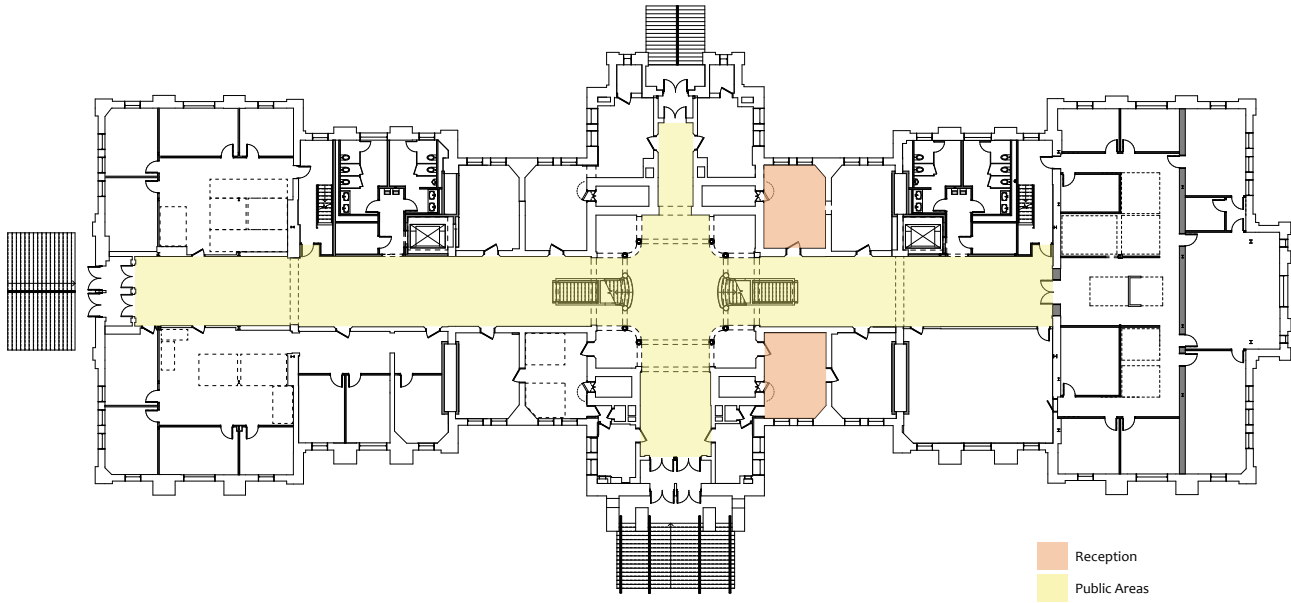


Figure 5.4.6.2: Public Areas - First Floor [Capitol]

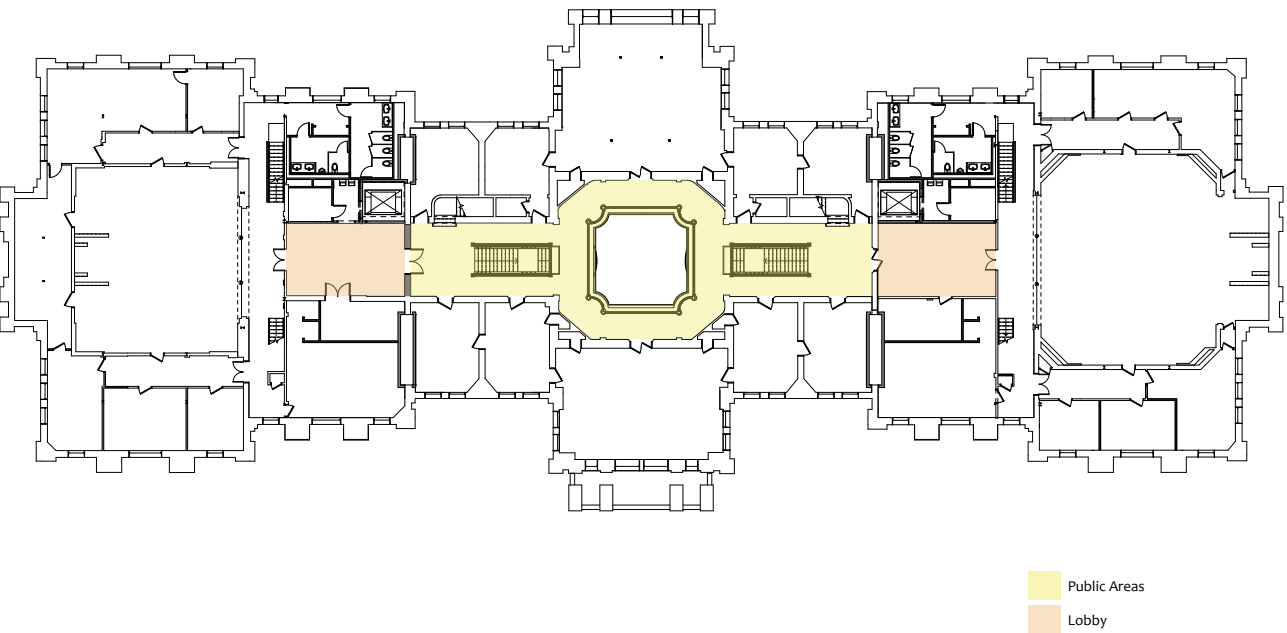


Figure 5.4.6.3: Public Areas - Second Floor [Capitol]

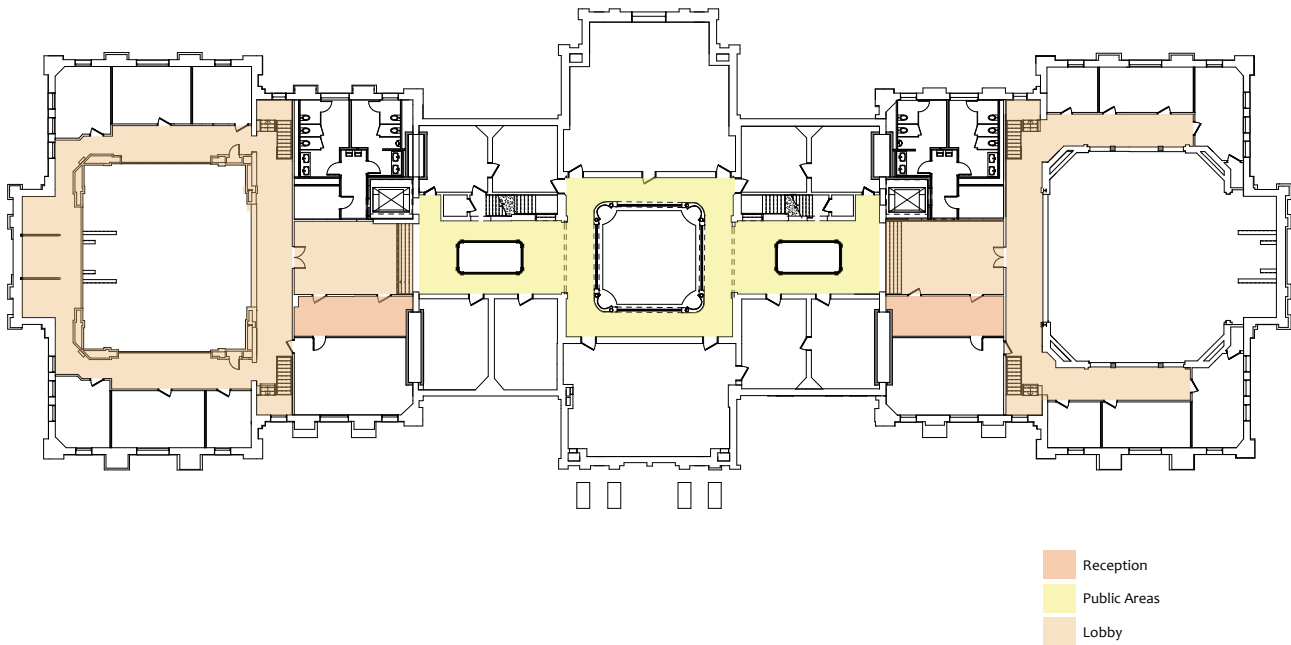


Figure 5.4.6.4: Public Areas - Third Floor [Capitol]



5.4.7 Power/Data Requirements: Public Areas

Public Areas:

These areas include the public corridors on all four floors of the Capitol building. While unassigned for any specific agency within the Capitol, these areas should still provide the public access to power and data.

Reception:

Reception areas are located on the first and third floor of the Capitol. These spaces function as reception and waiting areas for the Office of the Governor, the House, and the Senate. Similar to the public corridors, access to power and data should be made available for the public. The spaces should also include dedicated Legislative data ports, according to their function.

Lobby:

Lobby spaces reside on the third floor of the Capitol, outside of the Senate and House Galleries. These spaces provide a breakout or waiting area off of the Legislative chambers. Dedicated Legislative data ports should be provided, as well as Executive data ports and power for the public.



5.4.8 Power/Data Requirements: A/V / Private Phone Rooms

The below diagrams identify the locations of server rooms, A/V rooms, and private phone rooms. These spaces represent a unique condition for power and data requirments.

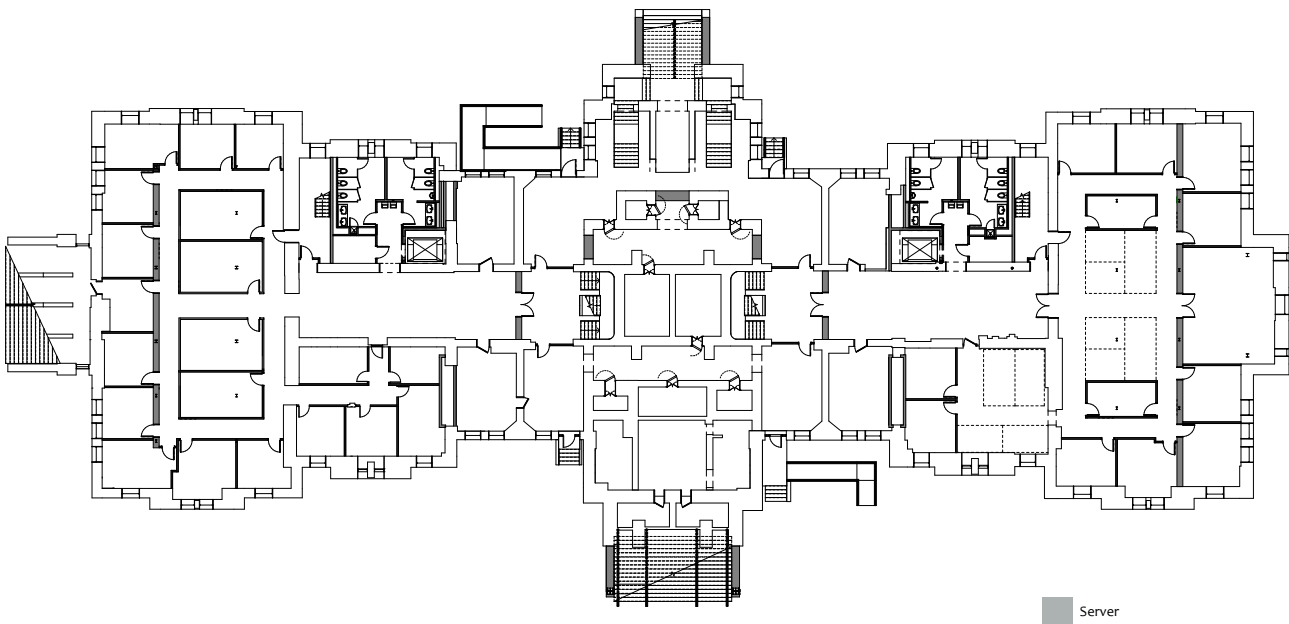


Figure 5.4.8.1: Support - A/V and Phone Rooms - Garden Level [Capitol]

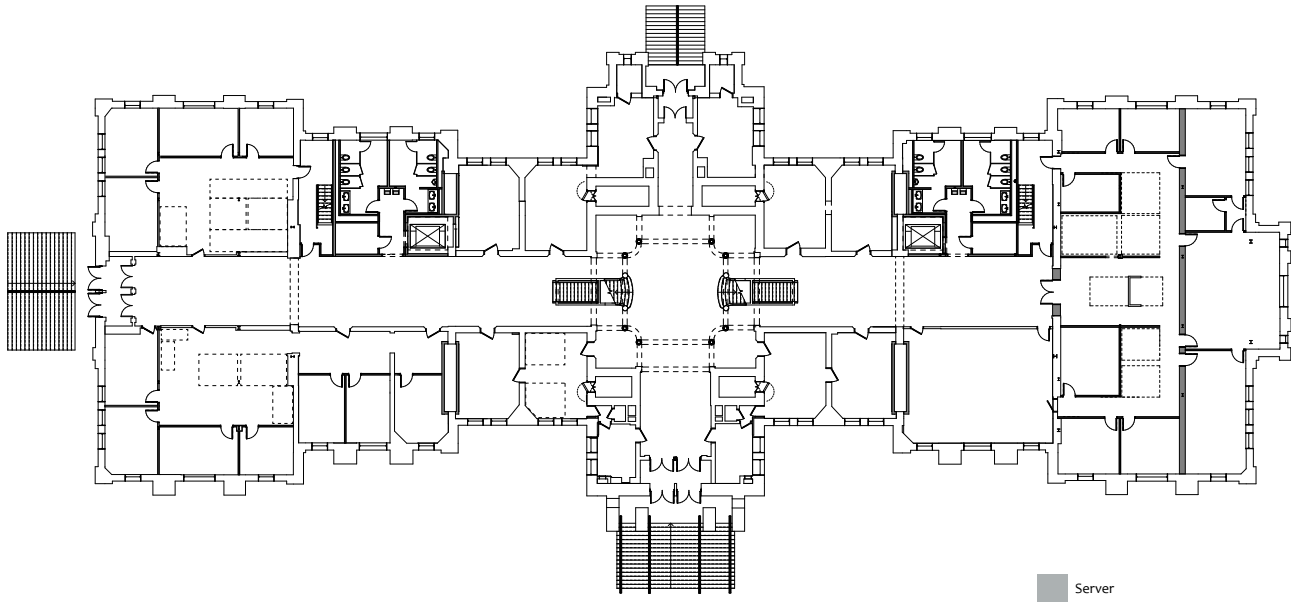


Figure 5.4.8.2: Support - A/V and Phone Rooms - First Floor [Capitol]

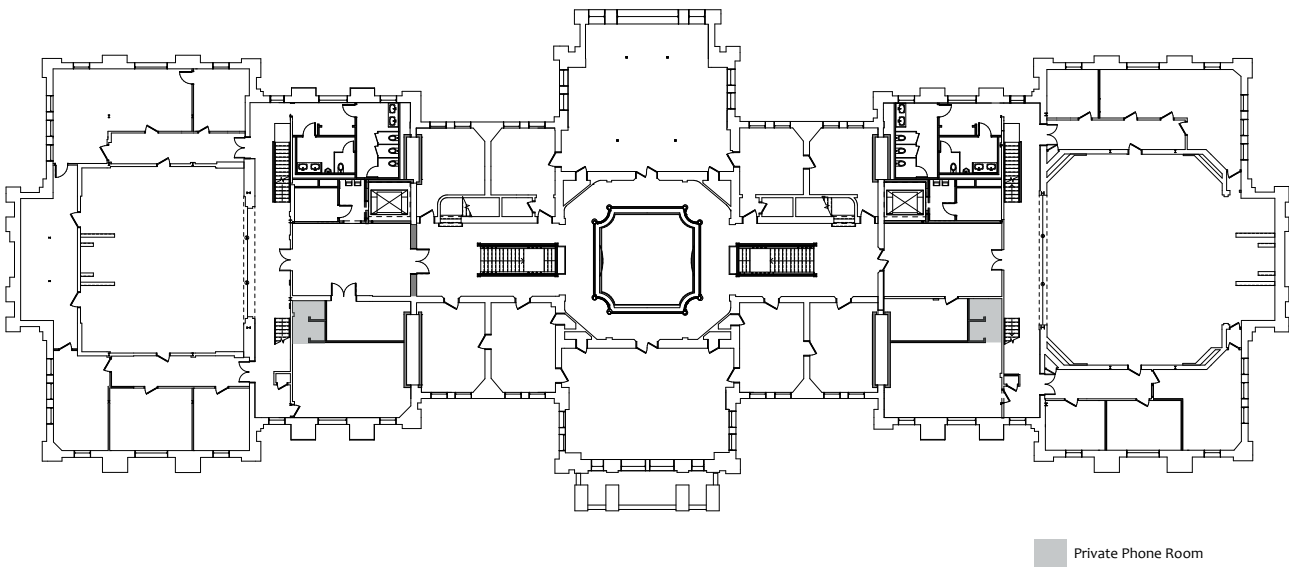


Figure 5.4.8.3: Support - A/V and Phone Rooms - Second Floor [Capitol]

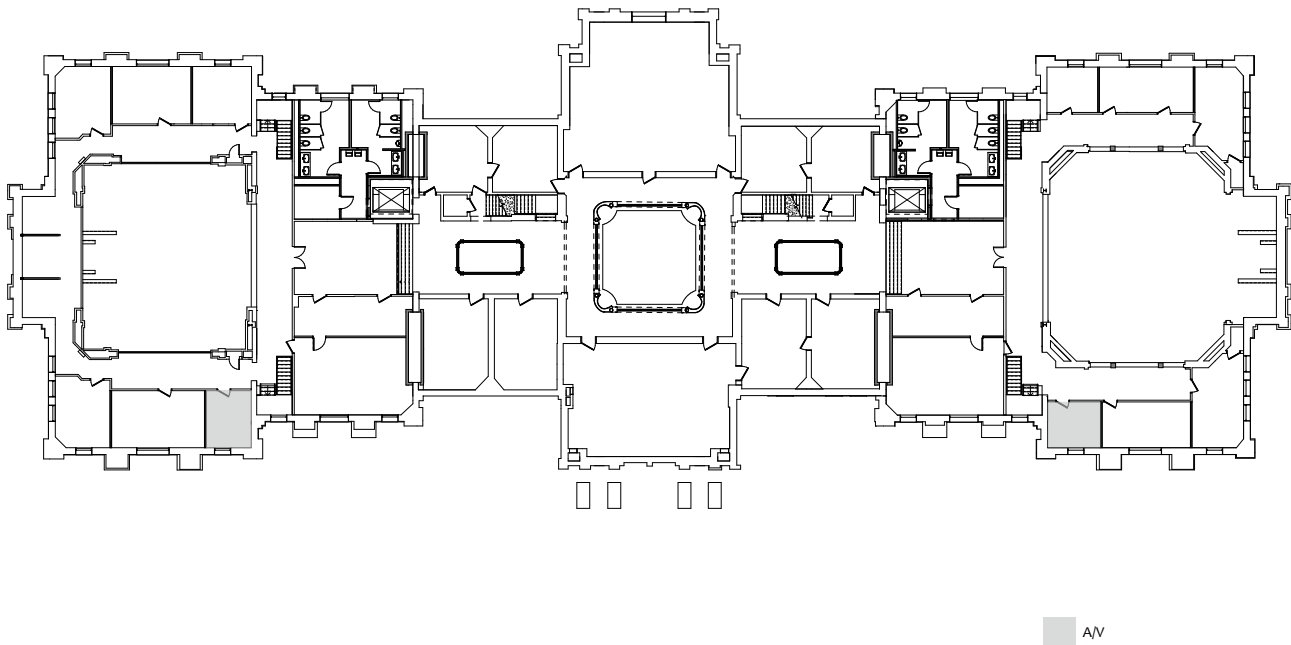


Figure 5.4.8.4: Support - A/V and Phone Rooms - Third Floor [Capitol]



5.4.9 Power/Data Requirements: A/V / Private Phone Rooms

Audio and Visual Rooms:

The audio and visual rooms for the House and Senate are designed to facilitate legislative sessions. The specifics for audio and visual requirements will be outlined in more detail during the Design Development stage; however, the space should be fully equipped to handle audio and visual tasks, and have access to power and data, for the equipment and for the audio and visual staff.

Private Phone Rooms:

The intent of these spaces is to provide a quiet, private space for members of legislature to step off of the Chamber floor for a quick phone conversation. No A/V equipment is required, but power outlets should be provided for charging cellphones or laptops.



Section 6: Project Components

6.1 Landscape / Site / Site Infrastructure

LANDSCAPE

Capitol Site

At its inception, the site on which the Wyoming State Capitol is situated was an open, level, four-acre city block, which served as the northern focus of the major north-south axis through the City of Cheyenne, along what is now Capitol Avenue. Development of the site occurred incrementally, over time, disappearing and reappearing between building campaigns, and evolving from an informal, intuitive design to a more formal landscape.

Site Chronology

The Design Team has discerned the following chronology of changes to the Capitol landscape, based on historic documents provided by the State of Wyoming, Department of Administration and Information, Division of Construction Management, known as AICM, and the Wyoming State Archives. The chronology listed below is provided as background to the recommendations developed in this Schematic Design Report.

Throughout its history, the site topography has remained relatively level. The site remains bounded on the south by 24th Street, the north by 25th Street, Carey Avenue on the west, and Central Avenue on the east. During the construction of the Herschler building from 1980 through 1984, the 25th Street boundary was infilled with the construction of an underground gallery and connection between the Capitol and the Herschler building. Although the Capitol site is now contiguous with the site on which the Herschler building was constructed, the northern boundary for the Capitol site remains the original alignment of the 25th Street curb line. The following chronology indicates changes since inception of the site:

As shown in Figure 6.2.1, the Early Landscape, dating from 1885 through 1889, depicts the following elements:

- Unpaved city streets
- Grassy field; no trees on site
- Unobstructed views to and from the Capitol

In Figure 6.2.2, the Planned Landscape, dating from 1890 through 1918, depicts these key elements:

- Paved city streets with curbing; walks added; paved north service area
- Turf; maturing deciduous street trees
- Views to and from the Capitol increasingly limited by street trees; open view of Capitol dome
- Wrought iron fencing around the site and lining the southern and western approaches to the building; symmetrical cast iron lamp posts on stone bases, with glass globes, flanking the south and west walks
- Spanish-American War Memorial sculpture east of the south entrance walk; two cannons to the south (not shown on plan)

Further development is shown in Figure 6.2.3, the Formal Landscape Design by Irving McCrary, dating from 1919 through 1933, depicts the following site features:

- Southern walk widened; additional walkways; street curbing
- Turf; planting beds added; grouped spruce trees planted at site corners; interior trees dot site
- Views to and from Capitol limited by street trees; open view of the Capitol dome
- Stone benches added, flanking the south entrance walk; lamp posts added at street front corners of the south entrance walk; lamp posts removed at south walk; wrought iron fence removed and replaced with perimeter curb; concrete benches added to southeastern and southwestern corners of the site
- Spanish-American War Memorial moved to current location on the site

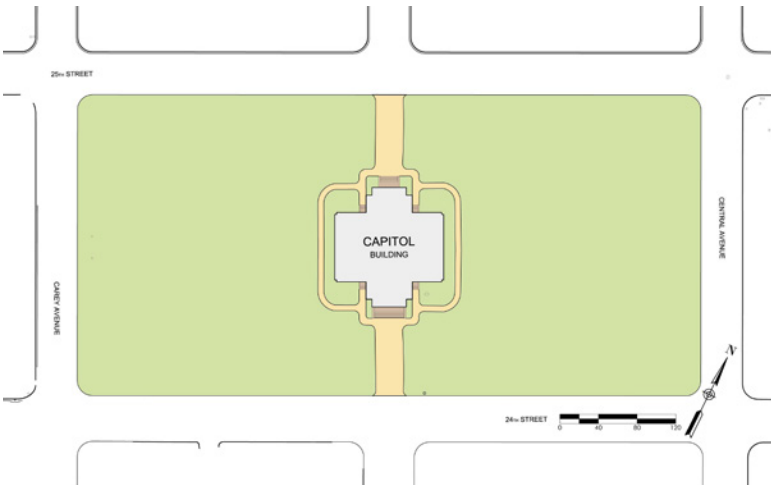


Figure 6.2.1: Early Landscape, 1885-1889

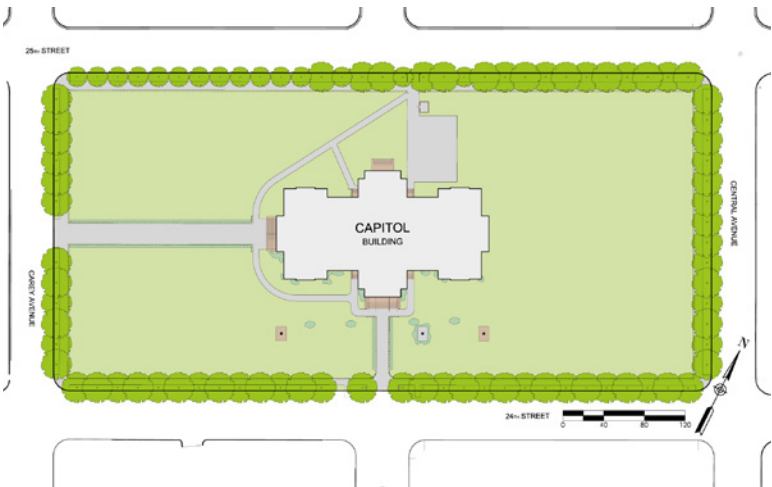


Figure 6.2.2: Planned Landscape, 1890-1918

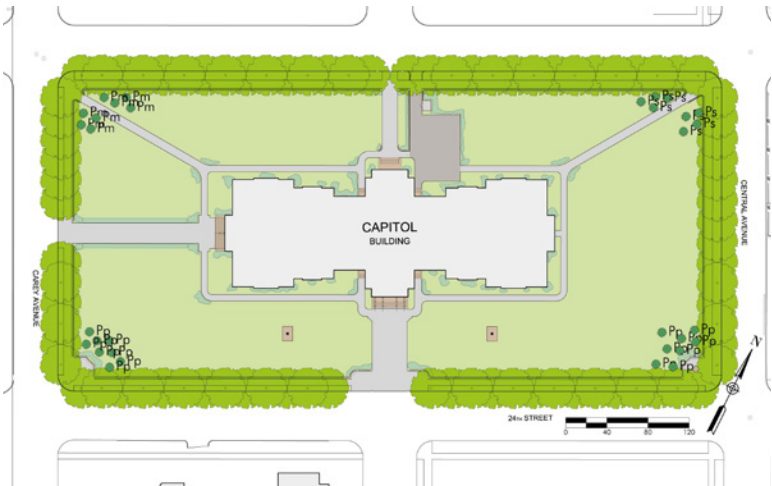


Figure 6.2.3: Formal Landscape by Irving McCreary, 1919-1933



As shown in Figure 6.2.4, the Formal Landscape Design by Saco Rienk de Boer, dating from 1934 through 1962, depicts the following elements:

- Paved circles at building corners added; interior walks extended to east and west; eas-west walks border east pool and the west lawn turf panel; north service area added
- Rectangular pool added to the east landscape with a fountain at the west end of the pool
- Turf; turf surrounded by planting beds replaces the western walk; planting beds surround pool
- Views to and from Capitol limited by street trees; open view of Capitol dome
- Removal of cannons; memorial objects added in each of the two south walk circles

In Figure 6.2.5, the Evolving Landscape, dating from 1963 through 1980, depicts these important features:

- Addition of the large north parking lot
- Removal of the pool from the east landscape
- Removal of the north lawn; installation of grass within the pool perimeter; most trees at the street removed
- Views to and from the Capitol are less limited by street trees; open view of the Capitol dome
- Esther Hobart Morris statue and two flag poles added

The current development of the site is shown in Figure 6.2.6, dating from 1981, the following elements are present on the site:

- North landscape completely reworked with the addition of the Herschler building, underground connector, and plaza
- Additional trees dot the site interior; north side street trees removed
- Views to the north side of the Capitol restricted by the addition of the Herschler building; open area reduced to east, west, and south lawns; open view of the Capitol dome
- Esther Hobart Morris statue moved to current location; “The Spirit of Wyoming,” “Bison,” “Chief Washakie,” and “Bison Calf” statues added; polished granite Great Seal added to renovated south walk; granite Great Seal marker added; approximately fourteen memorial trees added

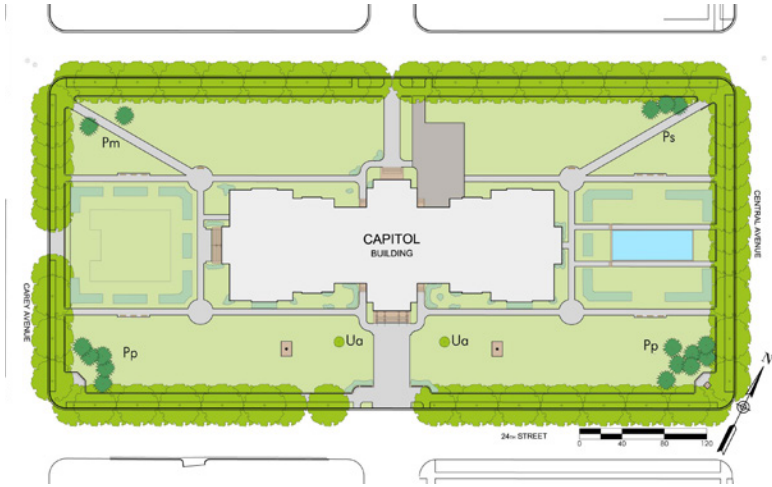


Figure 6.2.4: Formal Landscape Design by Saco Rienk de Boer, 1934 through 1962

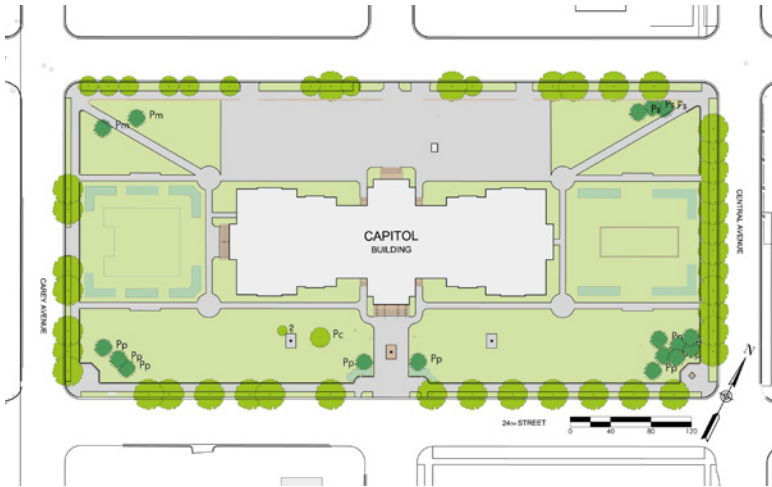


Figure 6.2.5: Evolving Landscape, 1963-1980

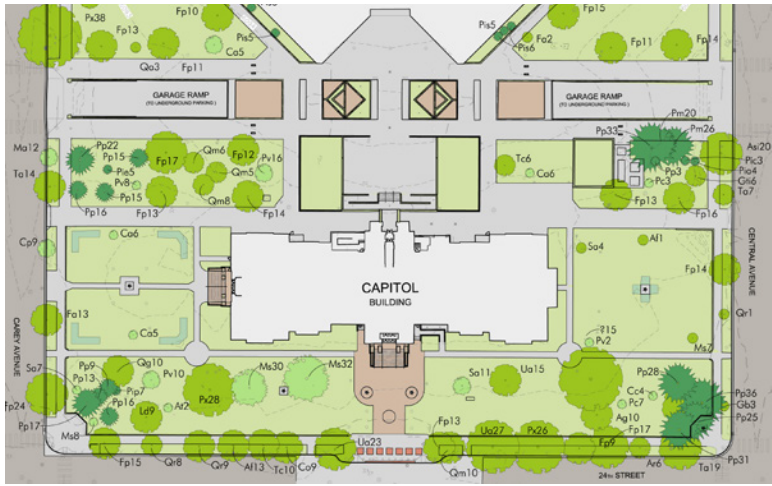


Figure 6.2.6: Current Landscape, 1981 to present

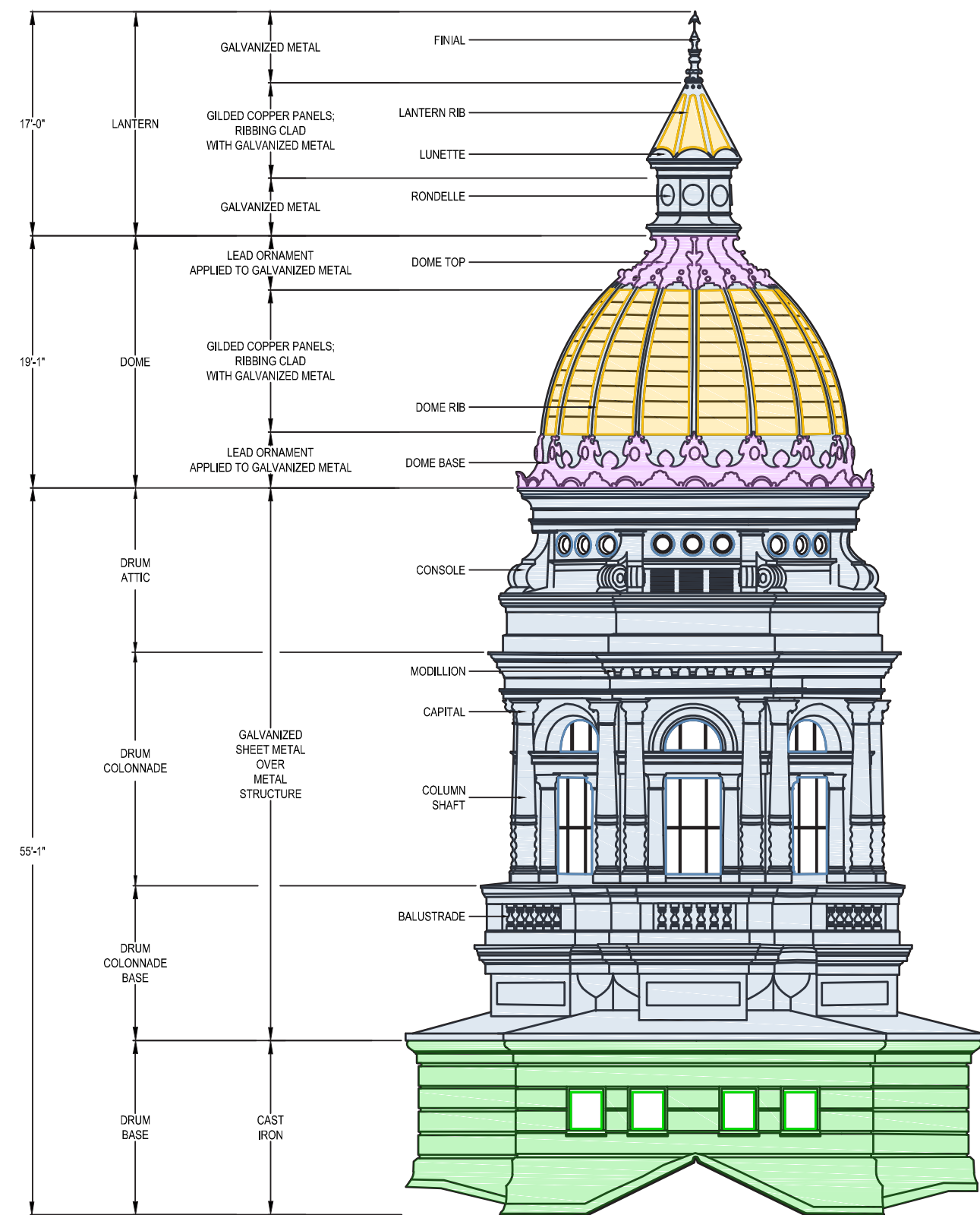




6.2.1 INTRODUCTION

The structural report will be provided as a supplemental package.





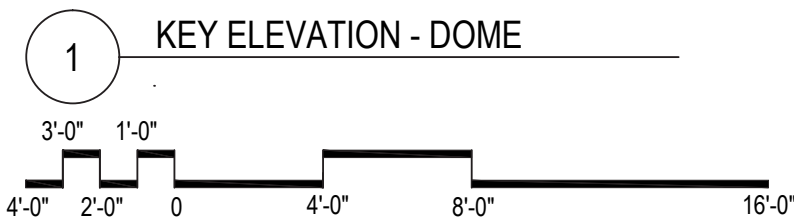
Existing Materials

In May 2013, Vertical Access (VA) investigated and documented the conditions of the exterior of the State Capitol Dome using industrial rope access techniques. The Schematic Design As-Found Condition Drawings of the Dome are based on the findings of VA.

The cladding at the Dome consists of several materials, including:

- A cast iron base
- Galvanized sheet metal at the drum, and at the shaft and finial of the lantern
- Gilded copper panels at the lantern and the dome with galvanized metal rib covers
- Galvanized sheet metal at the base and top of the dome with applied lead ornament.

Note: Refer to Scope of Work: Exterior - Windows Section 6.4.4 of this report for work at Dome windows.



MATERIAL		
COLOR	ABBREVIATION	MATERIAL
	FE	CAST IRON
	CU	GILDED COPPER
	GV	GALVANIZED SHEET METAL
	PB	APPLIED LEAD ORNAMENT

Figure 6.3.1: Key Elevation - Lantern, Dome and Drum





Figure 6.3.2: View of Lantern During 2009 Restoration, Before the Galvanized Metal Rib Covers Were Installed



Figure 6.3.3: Top of Lantern. The red areas indicate additional gilded copper area in the historic configuration. The red arrow points to a condition typical at many of the vertical joints which have been filled with sealant, a detail that does not conform to traditional roofing practices.



Component

- Lantern

Existing Conditions

The lantern on top of the Dome is in fair condition. It consists of:

- a galvanized metal finial above gilded copper panels that rest on lunettes.
- a galvanized metal shaft adorned with rondelles (circular raised panels).

Finial

- The finial appears to be in good condition, although there is a missing crocket (decorative element) on the north side.
- There are discrete areas of paint loss. Where the paint coatings are missing, traces of gilding are visible, suggesting that additional portions of the finial were once gilded.

Gilded Copper Panels

- The copper dome and lantern were first gilded in 1900, and have been re-gilded several times, including in 1979-80, 1986, and most recently in 2009.
- In photographs provided by the Owner of the 2009 restoration and reassembly of the gilded copper panels at the Lantern and Dome, the following conditions are evident and do not conform to traditional historic copper detailing and roofing practices. These details will not provide a watertight dome and lantern assembly for the long term [30-50 years].
 - Many of the vertical joints, covered by the galvanized rib covers, were filled with sealant. The traditional and watertight detail is a flat or standing seam.
 - The photographs indicate that nails were installed through the gilded copper panels, providing routes for water infiltration [Figure 6.3.4].
 - Sealant was installed at the joint between the gilded copper panel and the top of the galvanized metal lunettes [Figure 6.3.3]. The traditional and watertight detail includes the installation of counterflashing.
 - The photographs indicated that the gilded copper panels originally extended further and terminated in an ornamental arched pattern [Figure 6.3.3]. Sealant has been installed in the joint between the early painted copper and the newer gilded copper - a short-term repair solution at a vulnerable location.

Galvanized Metal

The galvanized metal is in fair condition. The tops of the lunettes are dented.

Lantern Interior

VA noted that there was decay in the wood blocking at the lantern cornice level below the lunettes, indicating that there is active water infiltration into the lantern assembly. The rot is most widespread on the south side of the lantern interior.

Proposed Treatment

Remove Lantern

- Photograph lantern in-place before removal, clearly showing all conditions.
- Remove lantern in its entirety for restoration at ground level or in a shop.

Restore Lantern

- Restore structural lantern frame as directed by the Structural Engineer.
- Replace 100% of the wood blocking.
- Remove existing gilded copper panels. Assume 50% replacement and 50% new gilded copper panels. Extend new gilded copper panels to historic configuration.
- Restore finial. Replace missing crocket.
- Replace 100% of the galvanized metal rib covers with new galvanized steel.
- Refer to *Galvanized Metal Treatments, General Approach (General Scope Of Work At Galvanized Metal Where The Metal Will Be Disassembled, Restored And Re-Assembled)* for treatment of galvanized metal at the lantern.
- Install blocking at lunettes to minimize potential damage to these elements caused by hail.

Reassemble Lantern

- Reassemble restored lantern in shop.
- Re-install Lantern.
- Secure Lantern to the Dome as directed by the Structural Engineer.
- Provide inert material in between dissimilar metals to avoid galvanic action.



Figure 6.3.4: View of Detail at Joint Between Lunette and Gilded Copper Panels. The traditional and watertight detail includes the installation of counterflashing. Note nails installed through copper panels.



Figure 6.3.5: Dome and Lantern



Figure 6.3.6: Detail of Gilded Copper Panels During 2009 Dome Restoration. Note that vertical joints are filled with sealant, rather than the traditional flat-lock or standing seam. The red indicates the additional extent of the historic configuration of the gilded copper panels.

Component

- Dome

Existing Conditions

Gilded Copper Panels

- Conditions and Detailing at the Dome are similar to gilded copper panel conditions at the Lantern [Figure 6.3.5].
- Photographs of the 2009 restoration and reassembly of the gilded copper panels at the Lantern and Dome provided by the Owner, indicate conditions which do not conform to traditional historic copper detailing and roofing practices and will not provide a watertight Dome and Lantern assembly for the long term [30-50 years].
 - Many vertical joints, covered by the galvanized rib covers, were filled with sealant [Figure 6.3.6]. The traditional and watertight detail would be a flat lock or standing seam.
 - The photographs indicated that the gilded copper panels originally extended up further and terminated in an ornamental arched pattern [Figure 6.3.6]. Sealant has been installed in the joint between the early painted copper and the newer gilded copper, which represents a short-term repair solution at a vulnerable location.
 - The joint between the gilded copper panels and the galvanized metal at the base of the Drum appears to be sealed with sealant - a short-term solution.

Dome Rib Covers

- The Dome rib covers appear to be in fair to poor condition.
- The sheet metal is dented with open seams and seams filled with sealant.
- Some sections of the ribs appear to be replacement pieces. Corrosion is evident.
- Exposed fasteners at the rib covers are covered with sealant.
- When VA conducted their interior survey of the Dome, there was a brief thunderstorm. Water was observed running down the inside of the Dome, in line with a rib at the northwest side. Water was also noted coming in the Dome at the north side, above a round window at the Drum Attic. These observations confirm that there are active leaks at the Dome and it is not watertight.

Dome Top and Dome Base

- The base and top of the Dome are clad with galvanized sheet metal with applied lead ornament [Figure 6.3.7]. The galvanized sheet metal is in fair condition, with some open seams, failed paint coatings and minor surface corrosion.
- Galvanized sheet metal with applied lead also comprises the high relief ornament applied to the consoles at the Drum Attic.
- The lead ornament is in poor condition with dents, tears and punctures at many locations and some missing elements. The tears and punctures occur on all sides of the Dome, but are most numerous on the east side. Some of the perforations have been filled with clear silicone sealant and automotive metal patching compounds.
- The base of the dome has a band of projecting foliated ornament. Many of the individual pieces of the ornament are missing. Some pieces of ornament have tears and are loose.

Proposed Treatment

Gilded Copper Panels

- Replace wood blocking and sheathing as necessary. Assume 100% of the wood blocking and 30% of the wood sheathing will be replaced. Coordinate work with Structural Engineer.
- Remove existing gilded copper panels. Assume 50% replacement and 50% new gilded copper panels. Fabricate and install new gilded copper panels so that they match the historic gilded panel configuration.

Dome Ribs

- Replace 100% of the galvanized metal rib covers with new galvanized steel matching existing profiles.
- Refer to *Galvanized Metal Treatments, General Approach (General Scope Of Work At Galvanized Metal Where The Metal Will Be Disassembled, Restored And Re-Assembled)* in Dome Section of this report for treatment of galvanized metal at the Dome.

Dome Top and Dome Base

- Disassemble the galvanized metal and sheet lead ornament at the top and base of the Dome. Assume 50% of the galvanized metal will be replaced.
- Refer to *Galvanized Metal Treatments, General Approach (General Scope Of Work At Galvanized Metal Where The Metal Will Be Disassembled, Restored And Re-Assembled)* in Dome Section of this report for treatment of galvanized metal at the Dome.
- Restore lead ornament. Patch holes, solder open seams, remove dents. Replace missing elements.
- Reassemble and install restored galvanized metal and lead ornament.
- Provide inert material in between dissimilar metals to avoid galvanic action.



Figure 6.3.7: Detail of the Galvanized Metal Sheet and Lead Ornament at the Top of the Dome.

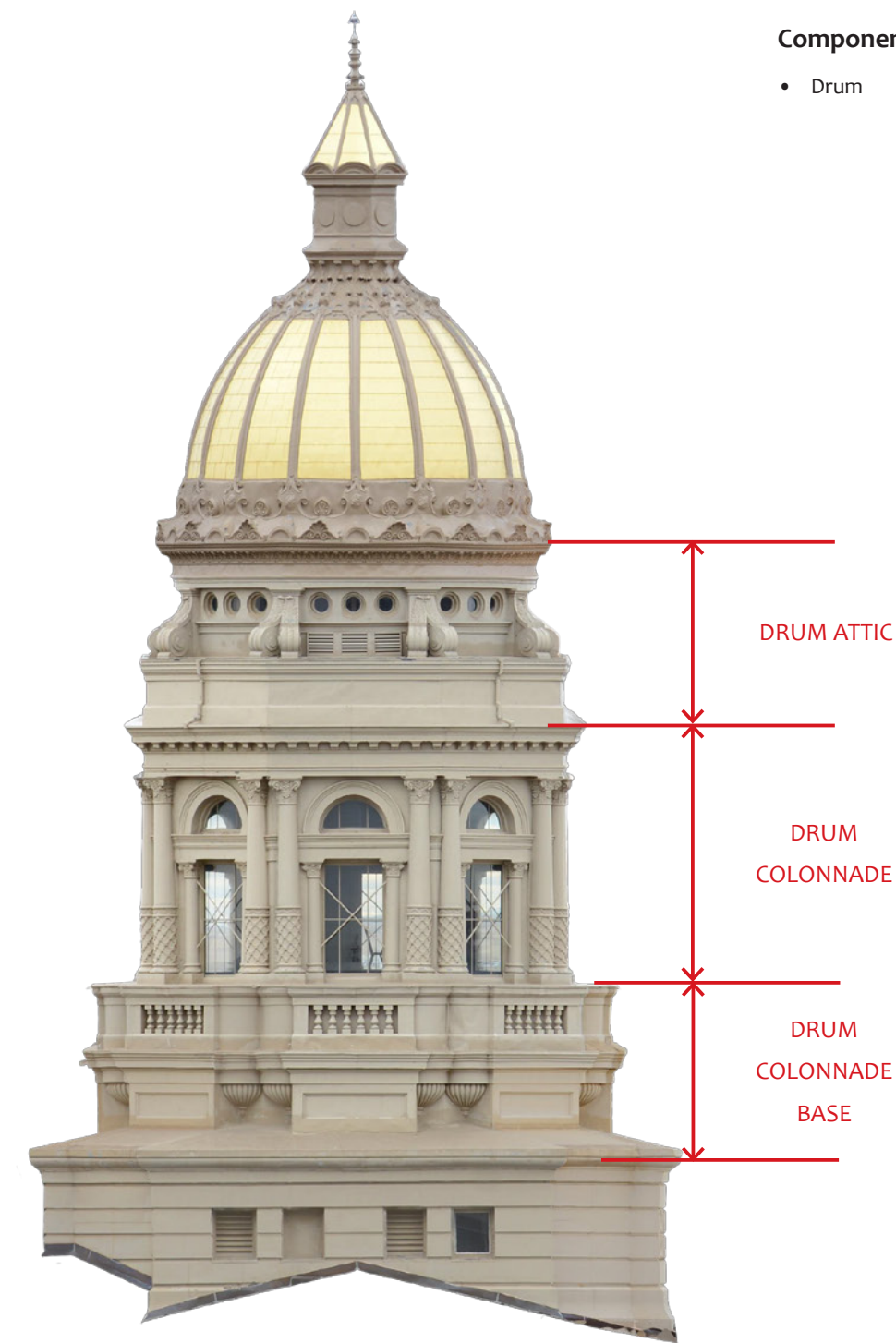


Figure 6.3.8: Key Elevation - Drum

Component

- Drum

Existing Conditions

- The Drum consists of the Drum Attic, Drum Colonnade and Drum Colonnade Base [Figure 6.3.8].
 - The Drum Attic extends from the galvanized metal and lead ornament at the base of the Dome to the top of the cornice above the Colonnade [Figure 6.3.13].
 - The Drum Colonnade extends from the cornice to the base of the columns [Figure 6.3.10 and Figure 6.3.12].
 - The Drum Colonnade base extends from the base of the columns to the top of the cast iron Drum Base [Figure 6.3.10, Figure 6.3.12, and Figure 6.3.14].
- The deck coatings at the wash surfaces of the Drum above the Base at the Colonnade and at the Attic are in poor condition [Figure 6.3.9]. Typically, the deck coatings have bubbled and lifted from the sheet metal substrate.
- The wash surfaces slope away from the walls of the Drum; however, the wash surfaces between the Drum Colonnade and the Drum Colonnade Base and in the Drum Attic do not adequately slope away allowing water to pond on the deck coatings at these levels.
- The paint coatings at the galvanized sheet metal cladding of the Drum are in poor condition, with widespread paint loss and peeling paint.
- Dents in the sheet metal of the Drum were noted at the bases of the columns and the balustrade.

Gutter and Rainwater Conductors

- The rainwater conductor that extends from the Dome to the roof below is contoured to follow the profiles of the Dome cornice and projecting elements [Figure 6.3.15]. One of the conductors has split open as a result of blockage and normal freeze-thaw cycles and one fell off of the building during the winter of 2012-2013.
- There is an existing K-gutter at the level of the base of the consoles [Figure 6.3.13].

Proposed Treatment

Gutter and Rainwater Conductors

- Remove existing rainwater conductors from the exterior of the Dome. Install new conductors in the interior of the Dome with connections to the gutters and outlets to drain the water onto the standing seam metal main roof of the building.
- Install new custom-made gutters at the same locations that conform to profiles at the cornice.

Galvanized Metal Treatments

- Refer to Figure 6.3.15 for areas to be disassembled, restored on the ground and reassembled. Refer to Figure 6.3.16 for areas to be repaired-in-place.
- Refer to *Galvanized Metal Treatments, General Approach (General Scope Of Work At Galvanized Metal Where The Metal Will Be Disassembled, Restored And Re-Assembled)* in the Dome section of this report for treatment of galvanized metal at the Drum that will be disassembled, restored and reassembled.
- Refer to *Galvanized Metal Treatments, General Approach (General Scope Of Work At Galvanized Metal Where The Metal Will Be Repaired-In-Place)* in the Dome section of this report for treatment of galvanized metal at the Drum that will be repaired-in-place.
- Refer to As-Found Drawings for quantities of deteriorated, damaged and missing elements.



Figure 6.3.9: Wash Surfaces (Shown in Red): 1. Mid-Line of Drum Attic Below Consoles; 2. Top of Drum Colonnade; 3. Top of Drum Colonnade Base; 4. Top of Drum Base.



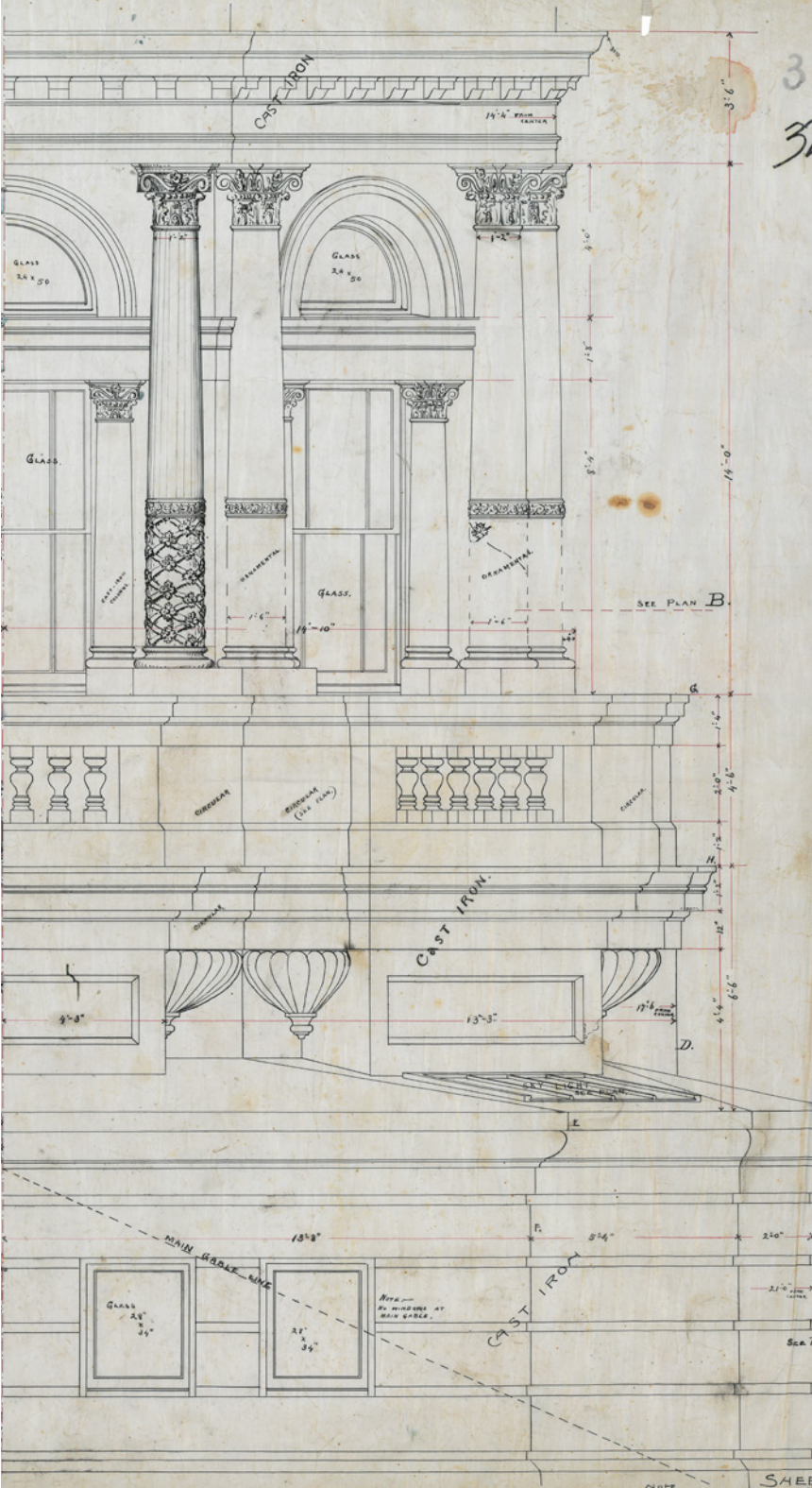


Figure 6.3.10: Historic Gibbs Drawing of Drum, ca. 1886. Note: the lower portion of the Drum Colonnade Base is made of galvanized iron rather than cast iron, as indicated on the drawing.



Figure 6.3.12: Detail of Drum Colonnade Base with Balustrade.



Figure 6.3.11: View of Dome, Drum and Drum Base.



Figure 6.3.13: Detail of Drum Attic.



Figure 6.3.14: View from Above of Drum Colonnade Base Showing Column Bases and Balustrade.



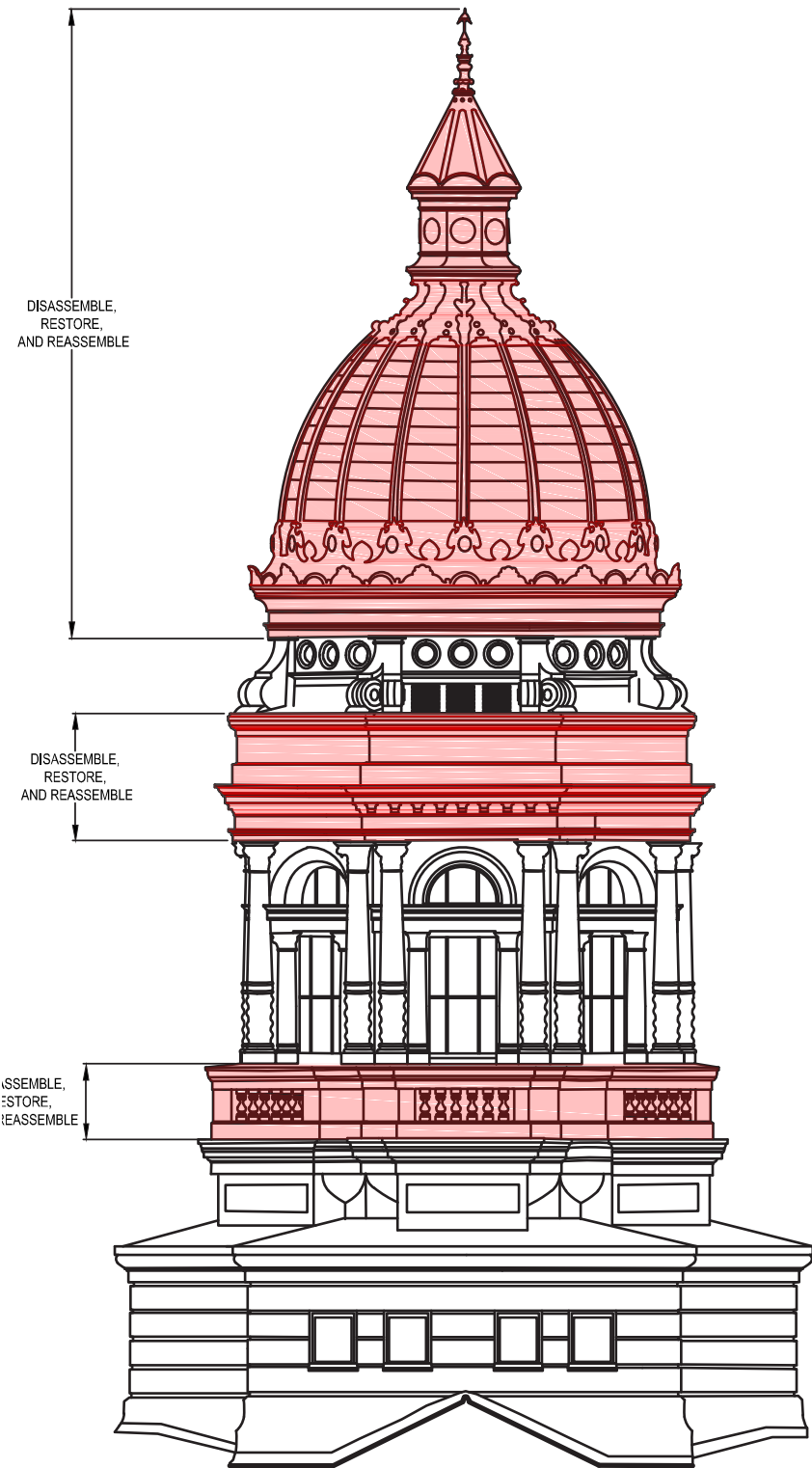


Figure 6.3.15: Key Elevation Indicating Galvanized Metal to be Disassembled, Restored and Reassembled

Component

- Galvanized Metal

Proposed Treatment

General Scope Of Work At Galvanized Metal Where The Metal Will Be Disassembled, Restored And Re-Assembled [Figure 6.3.15].

Disassemble Galvanized Metal

- Label all components and provide drawing or photographs with each labelled component identified on the building, so that each restored component can be reinstalled at its original location.
- Remove paint from galvanized metal surfaces to expose the seams and fasteners before the disassembly process begins. Do not blast. Assume poultice treatment.
- Remove sealant from all seams and fasteners.
- Photograph the galvanized metal assemblies in-place, before and after the completion of paint removal.
- Carefully remove the galvanized metal in complete sections without damaging or cutting the metal. Drill out all rivets and carefully back-out all fasteners.
- Once the metal components are on the ground, 100% of the paint and corrosion shall be removed, while maintaining the label designation.
- Protect and store galvanized metal components for Architect's inspection prior to restoration and reinstallation.

Structural Repairs

- Complete structural repairs for restoration while galvanized metal skin is removed as directed by the Structural Engineer. Refer to the Structural Engineer's [RSA] report and drawings.

Restore Galvanized Metal

- The galvanized metal shall be restored on the ground or in a shop, so that all repairs can be completed on the back of the galvanized metal assembly.
- Replace 100% of the galvanized metal rib covers at the Dome and Lantern with new galvanized steel rib covers matching existing profiles.
- Refer to Figure 6.3.9 for replacement of wash surfaces at Drum with new galvanized metal, including:
 - middle of Drum Attic directly below the consoles (1);
 - cornice at the top of the Drum Colonnade (2);
 - top of balustrade (3); and
 - top of Drum Colonnade Base (4).
- Install new wash surfaces so that they slope away from the building and do not allow water to pond.
- Apply a Kemper System cold-fluid applied membrane to all new wash surfaces.
- All dents shall be removed.
- All punctured elements shall be repaired on the back of the assembly.
- All torn components shall be replaced with new components unless directed otherwise by the Architect.
- All existing patch repairs shall be removed from the front of the assembly. All new patch repairs shall be installed on the back of the assembly. All repairs to the galvanized metal assembly and related building components shall be applied to properly prepared substrate.
- All seams on the back side of the assembly shall be cleaned and soldered.
- All missing ornament shall be fabricated and installed on the front of the assembly.
- Provide inert material in between dissimilar metals to avoid galvanic action.



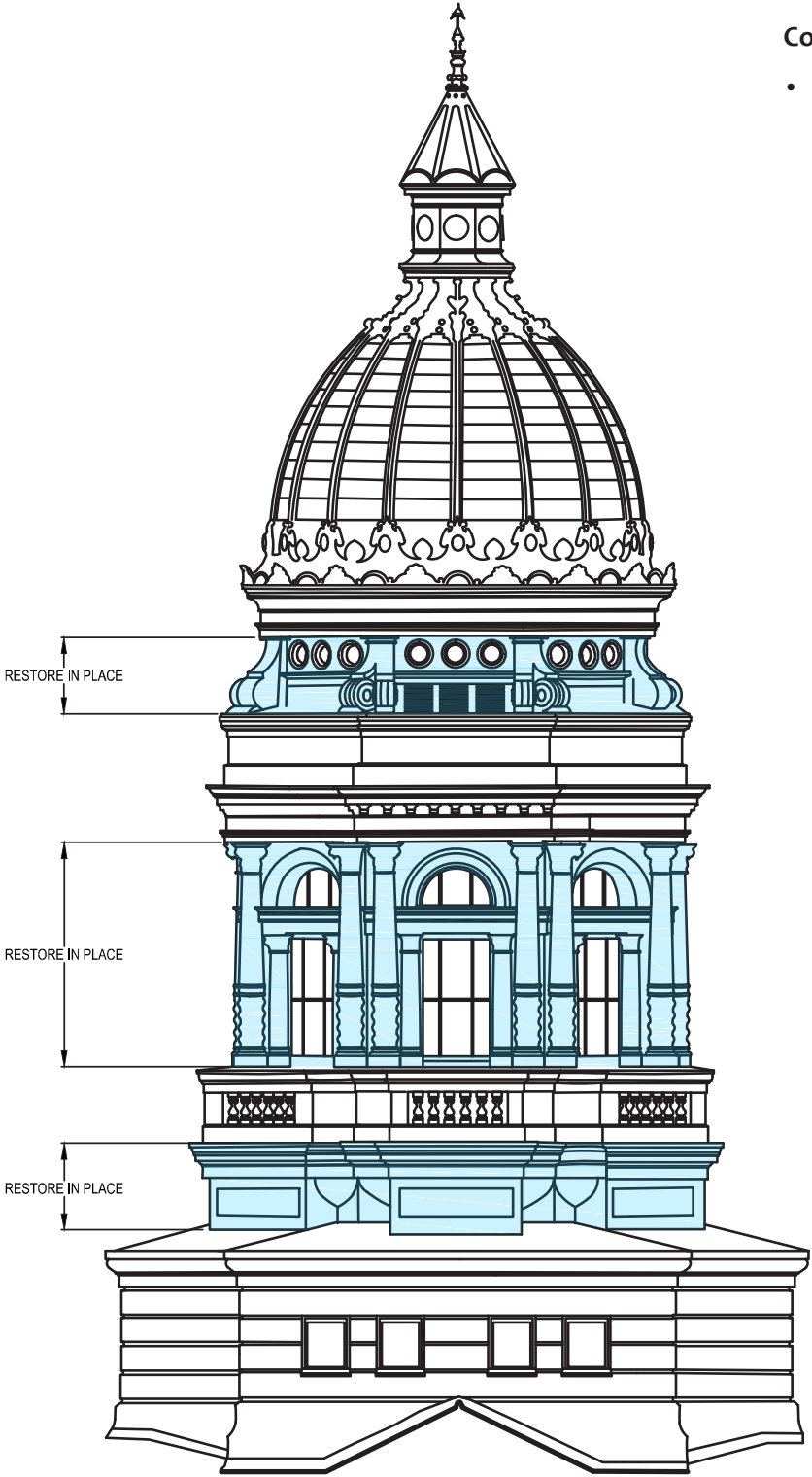


Figure 6.3.16: Key Elevation Indicating Galvanized Metal to be Disassembled and Restored in Place

Component

- Galvanized Metal

- Coatings shall be: Prime Coat - Tnemec Series N69F Hi-Build Epoxoline II; Intermediate Coat - Tnemec Series N69F Hi-Build Epoxoline II; Finish Coat - Tnemec Series 1071 Fluoronar. Apply primer and one intermediate coat. Finish coat of paint with a sand finish shall be applied after the galvanized metal is reinstalled. Paint matching per specifications.
- Reassemble and Reinstall Galvanized Metal Assembly.
- Install restored galvanized metal assembly with new stainless steel or carbon fiber fasteners.

General Scope Of Work At Galvanized Metal Where The Metal Will Be Repaired-In-Place [Figure 6.3.16]

- Remove paint and corrosion from all galvanized metal surfaces to bare metal.
- Remove sealant from all seams and fasteners.
- All dents shall be removed.
- All punctured elements shall be repaired.
- All torn components shall be replaced with new components unless directed otherwise by the Professional.
- All repairs to the galvanized metal assembly and related building components shall be applied to properly prepared substrate.
- All missing ornament shall be fabricated and installed on the front of the assembly.
- All metal elements shall be securely fastened to wood blocking. New fasteners shall be stainless steel or carbon fiber.
- All seams shall be filled. Repair open seams so that they are watertight.
- Apply a Kemper System cold-fluid applied membrane to all existing wash surfaces.
- All repairs to be consistent with project goals of long-term solutions (30-50 year repairs).
- Coatings shall be: Prime Coat - Tnemec Series N69F Hi-Build Epoxoline II; Intermediate Coat - Tnemec Series N69F Hi-Build Epoxoline II; Finish Coat - Tnemec Series 1071 Fluoronar. Apply primer and one intermediate coat. Finish coat of paint with a sand finish shall be applied after the galvanized metal is reinstalled.
- Provide inert material in between dissimilar metals to avoid galvanic action.



Figure 6.3.17: View of Cast Iron Drum Base.

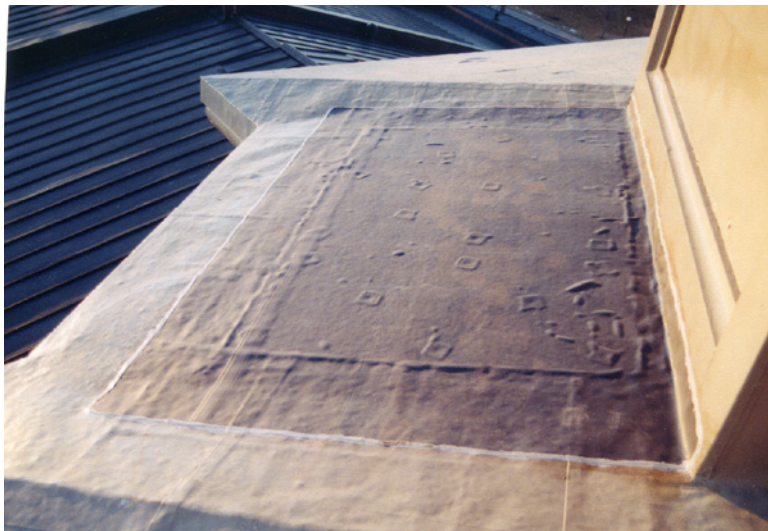


Figure 6.3.18: Location of One of Four Historic Skylights at the Wash Surface on the Top of the Drum Base as Seen from Above.



Figure 6.3.19: Location of One of Four Historic Skylights at the Wash Surface on the Top of the Drum Base as Seen from Below in Attic.

Proposed Treatment
Drum Base <ul style="list-style-type: none">Remove all paint, rust and mill scale from the cast iron surfaces down to bare metal using needle gun scalers.Coatings shall be: Prime Coat - Tnemec Series N69F Hi-Build Epoxoline II; Intermediate Coat - Tnemec Series N69F Hi-Build Epoxoline II; Finish Coat - Tnemec Series 1071 Fluoronar. Apply primer and one intermediate coat. Finish coat of paint with a sand finish shall be applied after the galvanized metal is reinstalled.Remove wash surface from top of Drum Base and install new galvanized steel wash surface (Figure 6.3.9). Install new Bilco-type doors for smoke evacuation where historic skylights were located. Refer to Roof Section 6.4.1 of this report.Apply reinforced cold fluid-applied membrane (Kemper System) to wash surface. Extend membrane 8 inches up vertical face of Drum Colonnade Base.

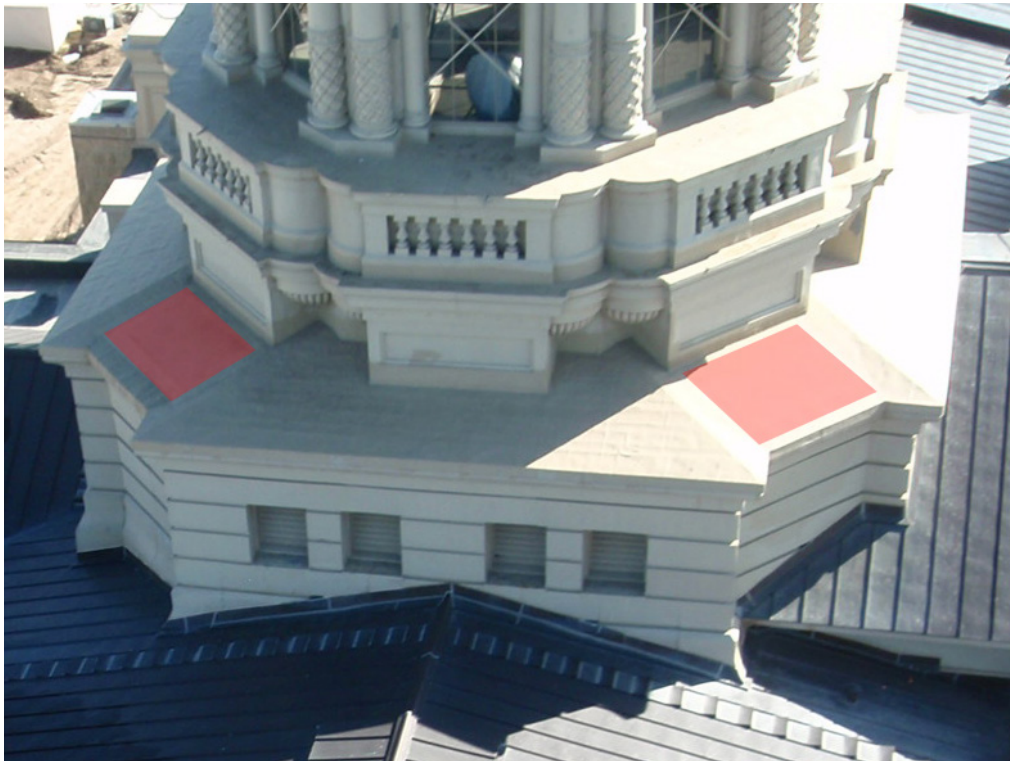


Figure 6.3.20: View of Top of Drum Base Showing Location of Historic Skylights in Red.



Component

- Lightning Protection

Existing Conditions

- The Capitol is currently protected by a single “electronically activated streamer emission” type air terminal located at the top of the dome (National Lighting Protection - NLP, Prevelectron 3 Series). There are two (2) existing down conductors routed down the building via the two (2) existing elevator shafts. Since these are to be relocated, a new lightning protection system must be installed.

Proposed Treatment

- Replace the existing system, including down conductors, ground rods and air terminal in-kind with new equipment and down conductors as directed by electrical engineer. The manufacturer’s recommended replacement model is the NLP, Prevelectron 4 Series.



6.4 BUILDING ENVELOPE

6.4.1 Roof

- General Conditions
- Insulation
- Mounting Boxes
- Roof Access
- Roof Deck
- Roofing at Low Sloped Areas
- Standing Seam Copper Roofing
 - General Details
 - Pans
 - Valleys
 - Hip and Ridge Details
- Fascia
- Counterflashing
- Back Side of Parapet and Built-In Gutters
- Transition between Built-In Gutters and Standing Seam Roofing
- Built-In Gutters
- Hail Damage

6.4.2 Galvanized Metal Assembly

- Armature/Outriggers
- Brick Masonry Back-Up Wall
- Entablature
- Cornice Cover/Gutter
- Parapet Wall
- Pediment

6.4.3 Stone Masonry

6.4.4 Windows

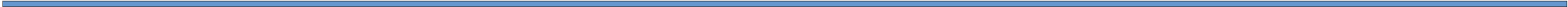
- Exterior Window Frames
- Window Sashes
- Interior Window Surrounds
- General Exterior Observations

6.4.5 Exterior Doors

- Exterior Monumental Wood Doors
- Exterior Garden Level Doors
- Exterior Metal Fire Escape Doors at North Elevation, Second and Third Floors

6.4.6 Skylights





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Roof Plan

LEGEND : EXISTING ROOFING

- EPDM [ETHYLENE PROPYLENE DIENE MONOMER-SYNTHETIC RUBBER]
- STANDING SEAM COPPER ROOFING

ROOFING COMPONENTS

1. LOW SLOPE EPDM ROOFING
2. STANDING SEAM COPPER ROOFING
3. COPPER FASCIA
4. BACK FACE OF PARAPET - EPDM
5. EPDM BUILT-IN GUTTER
6. TRANSITION BETWEEN EPDM GUTTER AND COPPER STANDING SEAM ROOFING
7. COPPER VALLEYS
8. COPPER RIDGE ROLL

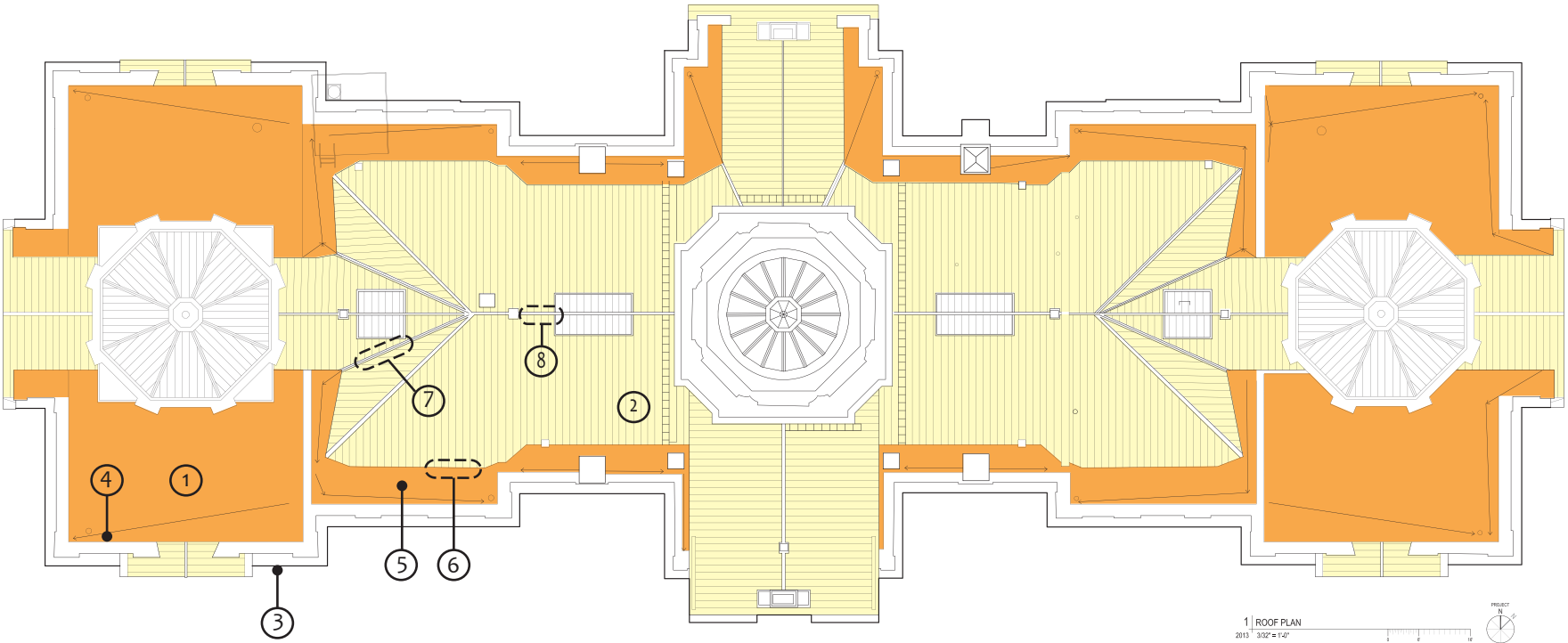


Figure 6.4.1.1 Existing Roof Diagram

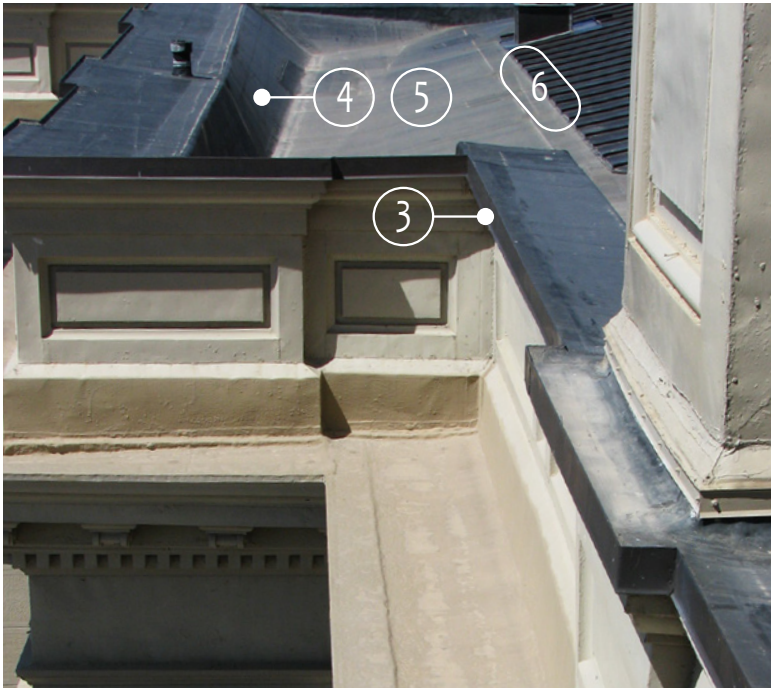


Figure 6.4.1.2 Roofing Components Identified in the Photograph at the Fascia, Back Face of the Parapet, Built-In Gutter and Transition Between the EPDM Gutter and the Copper Standing Seam Roof.

Components

- Insulation
- Mounting Boxes

Existing Conditions

- **Insulation:** It appears that there is no insulation on the roof deck or attic floor.
- **Mounting Boxes Used to Secure Lighting:** There are mounting boxes to secure lighting that are flashed into the roof. They are not adequately detailed to prevent water from infiltrating the roofing and flashing assembly. There is no solder around the light box flashing at the standing seam roofing.

Proposed Treatment

- Replacement roofing system shall be designed and built to provide 75-100 years of service.
- **Insulation:** No insulation is recommended to be installed as part of the new roofing assembly.
 - **Mounting Boxes:** Remove existing mounting boxes and install new alternative mounting system for the exterior roof light fixtures. Provide (hot-dipped galvanized steel) dunnage supports and flashings.





Figure 6.4.1.3 Overall View of Existing EPDM and Copper Standing Seam Roofing.



Figure 6.4.1.4 Current Roof Access is Provided by the Copper Steps.

Components

- Roof Access
- Roof Deck

Existing Conditions

Roof Access

- Currently, access is provided to the roof only via one door in the cast iron base of the Dome. The ridge roll with the roof sloping to both the north and south is immediately outside the door. Copper steps are soldered directly to the copper roofing pan. The steps are very slippery when wet and represent a danger to service personnel. In addition, they are potentially damaging to the roof [Figure 6.4.1.4].
- There are no adequate personnel tie-offs on the roof.

Roof Deck

- The roof deck appears to be tongue and groove planks secured to steel trusses with bolts and square nuts.
- The photographs from the 1997 roof replacement indicate that a layer of ½-inch plywood was applied over the tongue and groove planks.
- It is likely the existing ½-inch plywood will not be a suitable substrate for a new roof for the following reasons:
 - Removal of the existing EPDM will damage the plywood because it appears the EPDM is adhered directly.
 - The plywood was screwed in place in a random pattern.

Proposed Treatment

Roof Access

- Provide three access locations at the window openings in the Drum Base, and a series of catwalks to provide safe access to the roof.
- Provide a safety tie-off point immediately outside each access door. Provide additional tie-offs around the perimeter of the roof to provide tied-off access to all roof surfaces.

Roof Deck

- Assume 10% of the tongue and groove planks will be replaced.
- Remove 100% of the ½-inch plywood (decking) and replace with a continuous overlay of five-ply ¾-inch plywood, a heavier and more durable substrate.



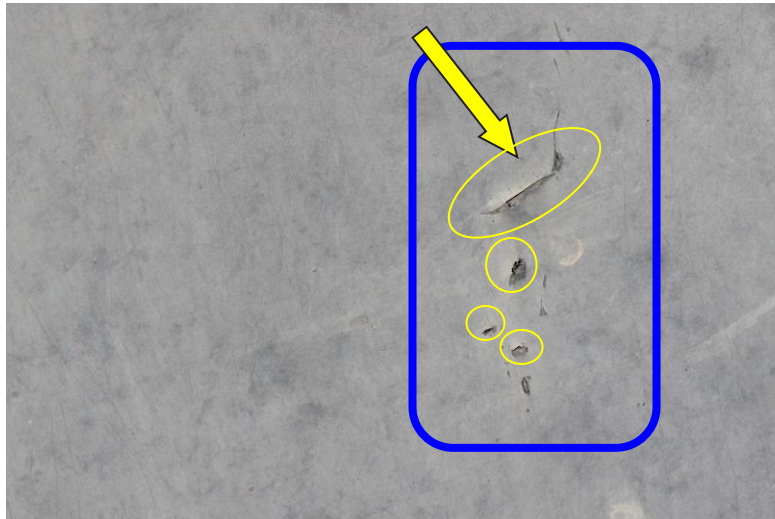


Figure 6.4.1.5 Damage to EPDM Roofing. The arrow points to a 2-inch tear and holes in the EPDM membrane.

Component

- Roofing at Low Sloped Areas

Existing Conditions

Roofing at Low Sloped Roof Areas

- Refer to *Figure 6.4.1.1 - Existing Roofing Diagram* for approximate extent of EPDM roofing.
- The existing EPDM roofing system is a synthetic rubber roofing membrane, approximately seventeen (17) years old.
- Two-inch tears and several holes were observed. These tears appear to be mechanical damage resulting from snow removal operations [*Figure 6.4.1.5*].
- This type of roofing is appropriate for commercial roofs with limited foot traffic and no anticipated mechanical abrasion such as shoveling.
- The EPDM roofing assembly is currently leaking. Loose flashings were observed.
- The EPDM roofing system is near the end of its anticipated life, between 16 and 18 years.

Proposed Treatment

Roofing at Low Sloped Roof Areas

- Remove existing EPDM roofing and replace with a copper flat lock soldered seam roofing system with traditional / historic copper detailing [*Figure 6.4.1.7*].
- The life span of a flat locked, fully soldered roofing system is approximately 75 years, equivalent to the lifespan of the standing seam copper roof.
- **Seams:** All seams to be crimped with a mechanical crimper. Seams to be peened flat, cleaned and soldered [*Figure 6.4.1.7*].



Figure 6.4.1.6 Existing EPDM at Low Sloped Roof Areas and Built-In Gutters.

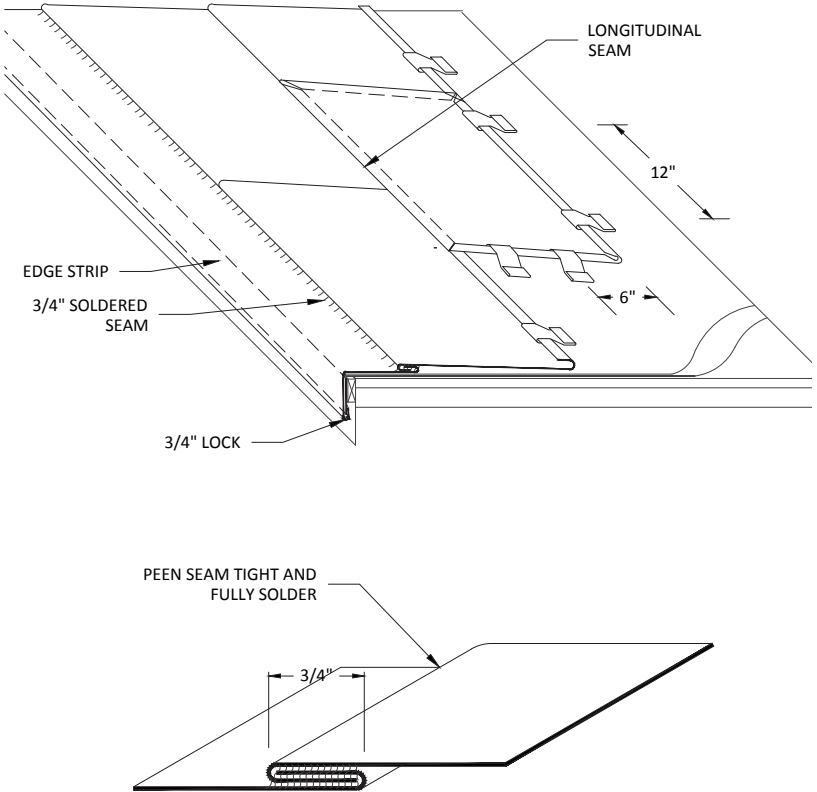


Figure 6.4.1.7 Typical Historic/Traditional Roofing Details Recommended at Areas of Low Slope Roofing.



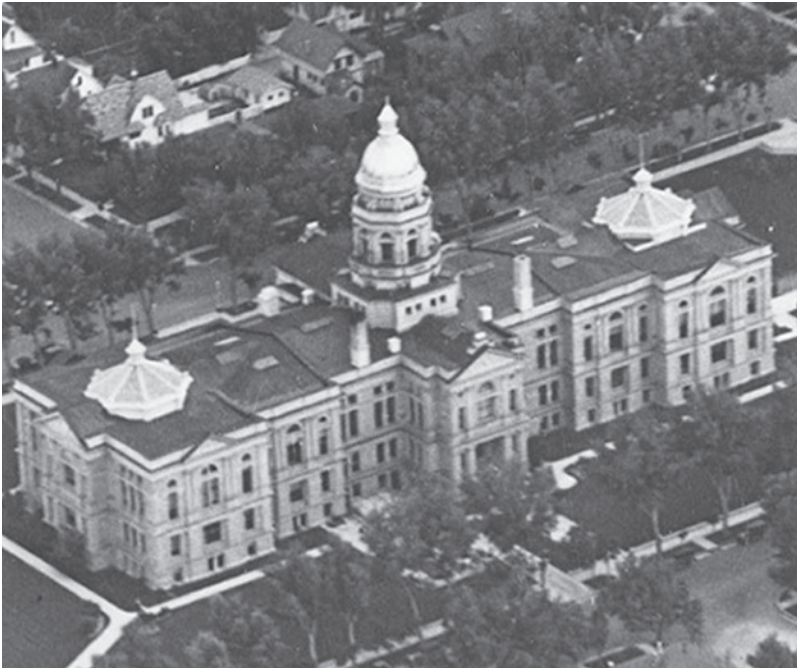


Figure 6.4.1.8 Aerial View from the North, of Historic Roofing, 1930.



Figure 6.4.1.9 View of Standing Seam Copper Roofing.



Component

- Standing Seam Copper Roofing
 - General Details
 - Pans

Existing Conditions

Standing Seam Copper Roofing

- Refer to Figure 6.4.1.1 - *Existing Roofing Diagram*, for approximate extent of copper standing seam roofing.
- The existing standing seam panels were applied over underlayment (30 lb. felt) and rosin paper.
- The existing copper roofing is not watertight. The detailing appears to be consistent with a “water shedder” type of application. The roofing panels in this type of application are designed to shed water, but are not specifically designed to be water tight.
- The existing copper roofing is not installed in a manner consistent with traditional historic copper detailing.

Continuous Pans: The roofing is installed with continuous pans from gutter to ridge (hip) [Figure 6.4.1.9]. The traditional historic roofing practice, on the other hand, uses pans that are a maximum of 10 feet long with alternate pans offset 5 feet.

Proposed Treatment

Standing Seam Copper Roofing

- Remove existing copper standing seam roofing entirely and provide a watertight copper standing seam roof using traditional/historic copper details complying with SMACNA (Sheet Metal and Air Conditioning Contractors National Association) and the Copper Development Association Handbook [Figure 6.4.1.12, Figure 6.4.1.16, Figure 6.4.1.17, and Figure 6.4.1.24].
 - **Size of Pans:** Maximum 10 feet long with alternate pans offset 5 feet.
 - **Seams:** All seams to be crimped with a mechanical crimper. Individual panel (horizontal) seams do not require soldering. All other seams to be peened flat, cleaned and soldered.
 - **Folding Over Standing Seams:** The bottom end of the standing seams shall be folded over 45 degrees and soldered to the standing seam.
 - **At Ridges or Rising Walls:** Standing seams to be gradually (over 16 to 24 inches) folded over and peened flat.
 - **Termination at Top of Pans:** End of the pan top at a rising wall termination to be panned up, peened flat, and mechanically secured to the deck.
 - **Fasteners:** All exposed rivet heads, screws, nails and/or other fasteners, clamps or projections to be capped with copper and soldered in place to ensure long-term performance.
 - **Starter Cleat:** A starter cleat is to be soldered to the roof pans with counter flashing locked onto the cleat and turned up the wall as a flashing sheet. Refer to Figure 6.4.1.24.
 - **Hems, Cleats and Accessories:** All hems, cleats, accessories and connections to copper to be peened flat prior to soldering.

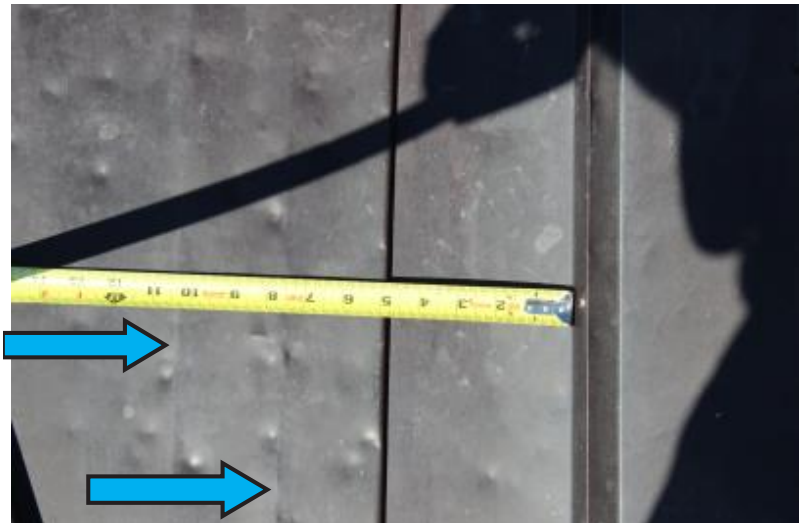


Figure 6.4.1.10 Detail of Existing Copper Valley. The blue arrows point to creases in the copper pans that indicate the edge of the valley below. Although difficult to read, there are only 10 + inches up each side of the valley. This indicates that a 24” wide sheet was used for the valleys, which is inconsistent with historic and accepted roofing practice.



Figure 6.4.1.11 Detail of Existing Copper Valley with Inverted “Vee” Center. This indicates that the valley was fabricated from a 24” sheet rather than a 36” sheet, which is the traditional detail.

Component

- Standing Seam Copper Roofing

Existing Conditions

Standing Seam Copper Roofing: Valleys

- Refer to *Figure 6.4.1.1 - Existing Roofing Diagram* for locations at valleys.
- The HDH drawings indicate that the valleys are 20 oz copper.
- Formed from 24” sheet with inverted “Vee” center
- The valleys are not fabricated in compliance with accepted historic and traditional detailing. The valley sections of a traditional copper roof are fabricated from 36-inch wide sheets with an inverted “Vee” in the center. The sides of the valleys are typically 17-1/4 inches long, terminating with a 3/4-inch hem, which is designed to receive a blind cleat. The existing roof does have the inverted “Vee”. In addition as *Figure 6.4.1.11* indicates, the two sides of the valley are significantly less than 17-1/4 inch in dimension. Damage was noted at the valleys.

Proposed Treatment

Standing Seam Copper Roofing: Valleys

- Minimum 24 oz copper
- Formed from 36” sheet with cleat hem on both edges and inverted “Vee” in center [Figure 6.4.1.12].
- Provide elevated walkway system to restrict foot traffic and prevent damage to replacement valleys.

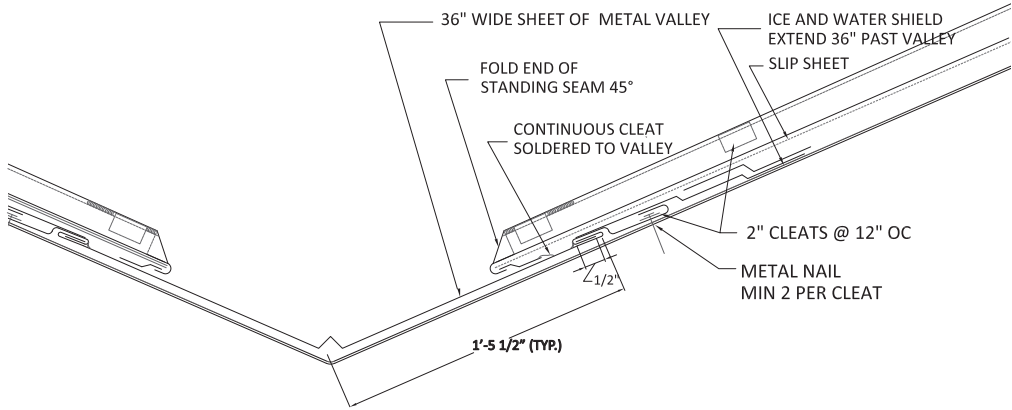


Figure 6.4.1.12 Proposed Detail at Typical Valley



Figure 6.4.1.13 View of Standing Seam Roof and Valley





Figure 6.4.1.14 Field Condition at the Ridge Roll and Standing Seam Interface. Note that the standing seams are not laid over at the ridge or hip cap as in the proposed treatment.

Component

- Standing Seam Copper Roofing

Existing Conditions

Standing Seam Copper Roofing: Hip and Ridge Details

- Refer to [Figure 6.4.1.1 - Existing Roofing Diagram](#) for hip and ridge locations.
- Three-inch diameter ridge roll [[Figure 6.4.1.14](#)].
- May not be original detail.
- The as-built conditions and treatments at the hip and ridge are designed for steep “water shedder” roof systems and are not watertight. They consist of a 3-inch diameter ridge roll. The copper pans appear to be inserted into a “C” channel that also serves as a ridge roll tie-down cleat. “Z” flashing was used to secure the copper pans directly downslope from the ridge. The “Z” flashing is also a rain block for wind driven precipitation. Neither side of the “Z” flashing is soldered to the individual pans, creating two voids in each panel, which allows moisture, rain, snow and debris to enter the roofing system. Refer to [Figure 6.4.1.15](#).
- This type of panel termination is typically used on steep “water shedder” roofing systems, such as commercial building canopy roofs, rather than roofs over habitable spaces. This design configuration provides a route for wind driven snow and rain (refer to blue lines in [Figure 6.4.1.15](#)) to travel up beyond the “Z” flashing above the panel, resulting in roofing leaks.

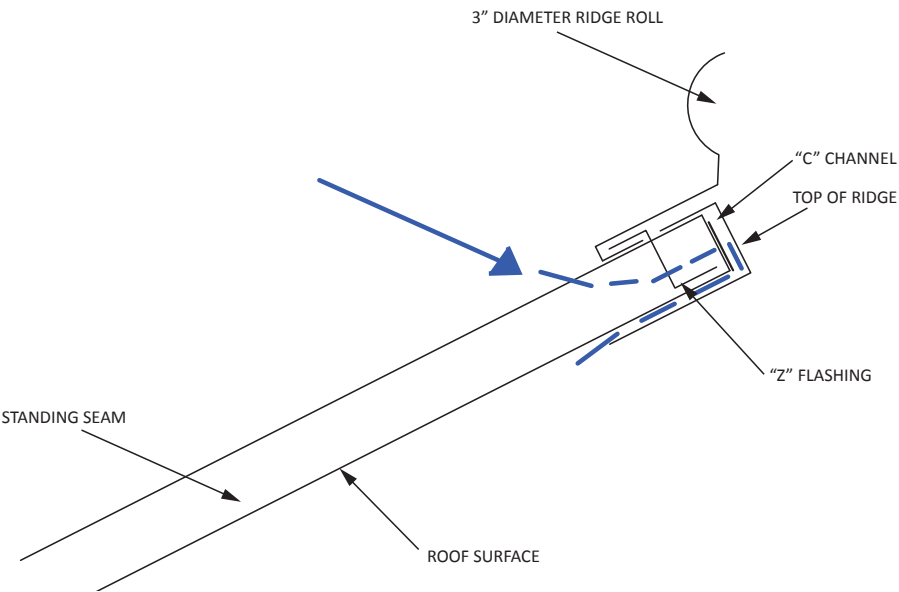


Figure 6.4.1.15 Approximate Field Condition at the Ridge Roll and Standing Seam Interface. The “C” channel at the top of the panel may or may not be present.

Proposed Treatment

Standing Seam Copper Roofing: Hip and Ridge Details

- The Design Team will conduct additional research to confirm the historic detail at the ridge. Most roofs of this period did not use ridge rolls, but used a traditional and simple upstand type of hip and ridge, similar to those shown in [Figure 6.4.1.16](#) and [Figure 6.4.1.17](#).

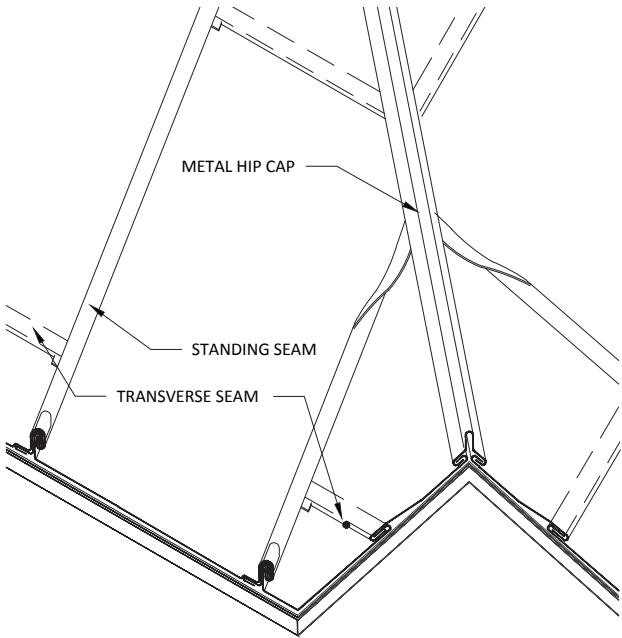


Figure 6.4.1.16 Hip and Ridge Detail at Standing Seam Roof.

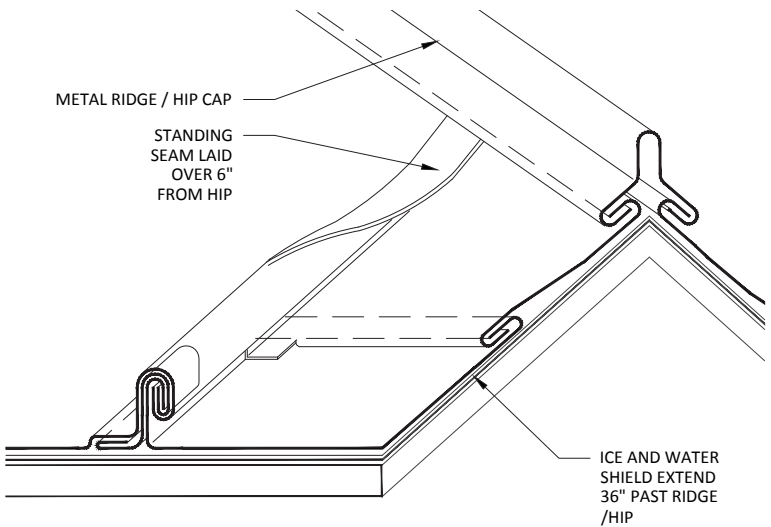


Figure 6.4.1.17 Close-Up Detail of Simple Upstand Type of Hip and Ridge.





Figure 6.4.1.18 Copper Fascia Terminates EPDM Roofing.

Components

- Fascia
- Counterflashing

Existing Conditions

Fascia

- Refer to [Figure 6.4.1.1 - Existing Roofing Diagram](#) for fascia location.
- 20 oz copper element at transition between galvanized metal top of parapet cover and EPDM roofing.
- Fascia terminates EPDM roofing [[Figure 6.4.1.18](#) and [Figure 6.4.1.19](#)].

Counterflashing

- Surface mounted counterflashing at the cast iron drum [[Figure 6.4.1.20](#)].
- Detail relies on sealant at the top of the flashing for watertight transition.

Proposed Treatments

Fascia

- Remove fascia and EPDM and install lead-coated copper coping to prevent the staining of the galvanized metal and masonry [[Figure 6.4.1.25](#)].

Counterflashing

- A secondary counterflashing should be employed as a primary weather resistant counterflashing. The flashing termination below will be a redundant termination protected from UV degradation.

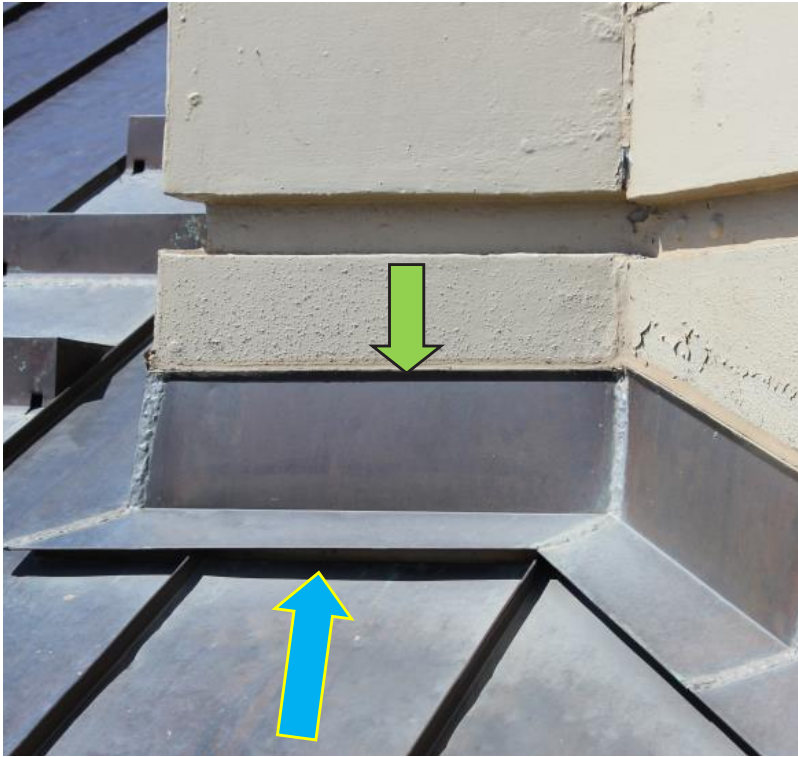


Figure 6.4.1.20 Existing Counterflashing Detail at Cast Iron Drum Base. The green arrow points to the surface-mounted counterflashing. This detail relies on the sealant at the top of the flashing. The blue arrow points to the counter flashing that is hooked onto the “Z” flashing. When this type of detail is used at a roof penetration such as a chimney or cast iron plate, no matter how good the soldering, precipitation will likely enter the assembly.



Figure 6.4.1.21 Surface-Mounted Counterflashing Detail at Interface Between EPDM Roofing and Skylight.



Figure 6.4.1.19 Copper Fascia Terminates the EPDM and Laps over Galvanized Metal.





Figure 6.4.1.22 View of EPDM at top of parapet wall.



Figure 6.4.1.23 View of EPDM Built-In Gutter.



Components

- Back Side of Parapet and Built-In Gutters
- Transition between Built-In Gutter and Standing Seam Roofing

Existing Conditions

Back Side of Parapet and Built-In Gutters

- Refer to *Figure 6.4.1.1 - Existing Roofing Diagram* for extent.
- EPDM fully adhered to 1/2” plywood substrate.
- Flashing stripping is deteriorated.
- EPDM is damaged and at the end of its useful life.

Transition between Built-In Gutter and Standing Seam Roofing

- Refer to *Figure 6.4.1.1 - Existing Roofing Diagram* for extent.
- No apparent method of tie-in between EPDM and standing seam roofing panels.

Proposed Treatment

Transition between Built-In Gutter and Standing Seam Roofing

- Refer to general discussion of recommended roofing systems [*Figure 6.4.1.24*].

Back Side of Parapet and Built-In Gutters

- Remove EPDM and install full sheet straps formed from 32oz. cold rolled copper, per *Figure 6.4.1.25*.

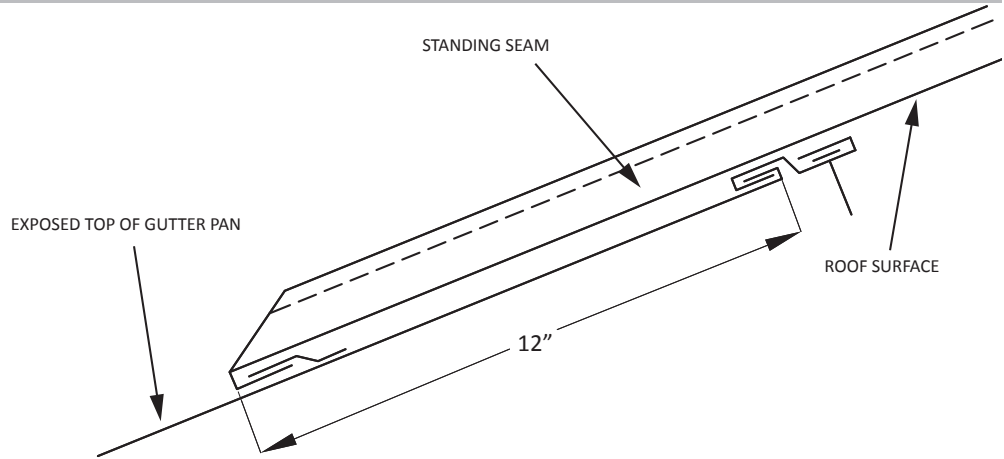


Figure 6.4.1.24 Proposed Treatment Detail at Transition Between Built-In Gutter and Standing-Seam Roofing. Waterproof method of providing a water tight standing seam roofing system. Starter strip at transition from gutter pan to standing seam is soldered to the gutter pan 12 inches below the high point of the gutter pan.

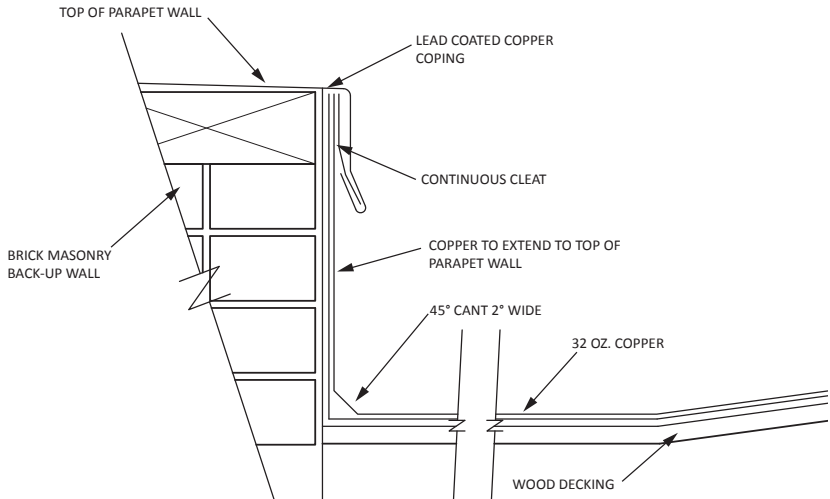


Figure 6.4.1.25 Proposed Treatment Detail at Parapet Walls.



Figure 6.4.1.26 View of Existing EPDM Built-In Gutters.



Figure 6.4.1.27 View of Hail Damage at Existing Copper Standing Seam Roofing.

Component

- Built-In Gutters

Existing Conditions

Built-in Gutters

- Refer to [Figure 6.4.1.1 - Existing Roofing Diagram](#) for approximate extent.
- Gutters consist of EPDM adhered directly to the plywood substrate [[Figure 6.4.1.26](#)].
- There are no provisions tying the existing copper roofing into the replacement gutter.
- EPDM is not the appropriate material to use in a gutter application when a copper standing seam roof is located directly above it, because the life span of EPDM is significantly less than copper. In order to replace the EPDM gutter without replacing the copper roof, it would be necessary to dismantle portions of the copper roofing.

Hail Damage

- There is extensive hail damage to the copper roof. The hail was approximately the size of ping pong or racquet balls [[Figure 6.4.1.27](#)].

Proposed Treatment

Built-in Gutters

- The life expectancy of the gutters should be equal to the life expectancy of the roof adjacent to it. Therefore, the gutters should be constructed of copper.
- All of the gutters should be covered with full sheet straps formed from 32 oz. cold rolled copper.
- The copper sheet should extend from the top of the parapet wall, hemmed at the top edge of the parapet and cleated to tie into and provide an anchoring point for the coping. The gutter section should form an ice cant at the gutter/parapet transition and extend out into the gutter basin. Cross seams in the gutter to be lapped, riveted and soldered [[Figure 6.4.1.15](#)].
- Gutters should extend twelve (12) inches under the copper standing seam roofing.
- There may be no effective means of reducing the potential damage from (large) hail to the copper sheet.

Hail Damage

- A contingency should be included for special treatment against hail damage for sheet metal roofing.
- Note to CMAF:
 - Include contingencies for the following items:
 - i. access/catwalks
 - ii. snow guards at pediments
 - iii. fall protection
 - iv. mounting of roof accessories and lighting

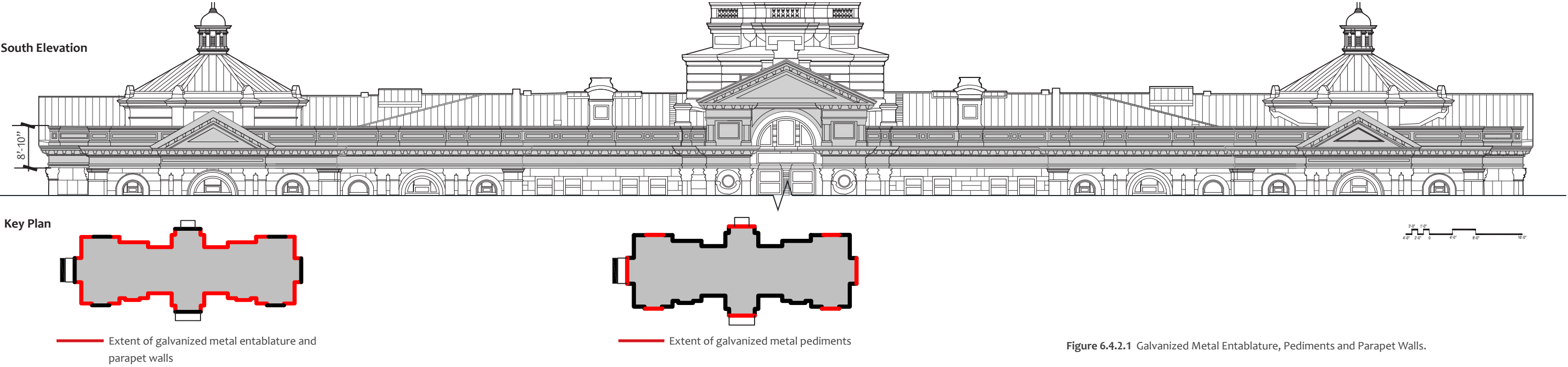


Figure 6.4.2.2 Galvanized Metal Entablature, Pediments and Parapet Walls.

Component

- Galvanized metal entablature, pediment, and parapet walls

Comments/Remarks

- Refer to Schematic Design drawings for quantities

Existing Conditions: General

- The entablature, cornice, pediments and parapets above the stone walls consist of galvanized metal [Figure 6.4.2.1, Figure 6.4.2.2, and Figure 6.4.2.3]. The galvanized metal appears to be in fair condition with limited corrosion.
- Remedial work was performed at the galvanized metal in 1999 as part of the Roof Replacement, Exterior Renovation and Repairs Project. The galvanized metal was repaired-in-place.
- Conditions observed at the galvanized metal and indicated on the drawings include:
 - Bent, buckled or deformed metal profiles.
 - Cracks in the metal.
 - Poorly executed joints and joints that have been filled with sealant.
 - Poorly executed repairs.
 - Missing ornament at the Pediments.
 - Peeling paint exposing bare metal underneath.
 - The top of the cornice cover is a tapered gutter and is in poor condition.

Proposed Treatment: General Approach

- The galvanized metal assembly shall be disassembled, restored on the ground, and reassembled.
- Disassemble Galvanized Metal Assembly**
- Photograph the galvanized metal assemblies in-place, before and after the completion of paint removal.
 - Label all components and provide drawings or photographs with each labelled component identified on the building, so that each restored component can be reinstalled at its original location.
 - Remove the majority of the paint from all galvanized metal surfaces to expose the seams and fasteners before the disassembly. Do not blast. Assume poultice treatment.
 - Remove sealant from all seams and fasteners.
 - Carefully remove the galvanized metal in complete sections without damaging or cutting the metal. Drill out all rivets and carefully back-out all fasteners. Untie wires and carefully push wires through existing holes.
 - Once the metal components are on the ground, remove 100% of the paint and corrosion, while maintaining the label designation.
 - Protect and store galvanized metal components for Architect's inspection, restoration and reinstallation.



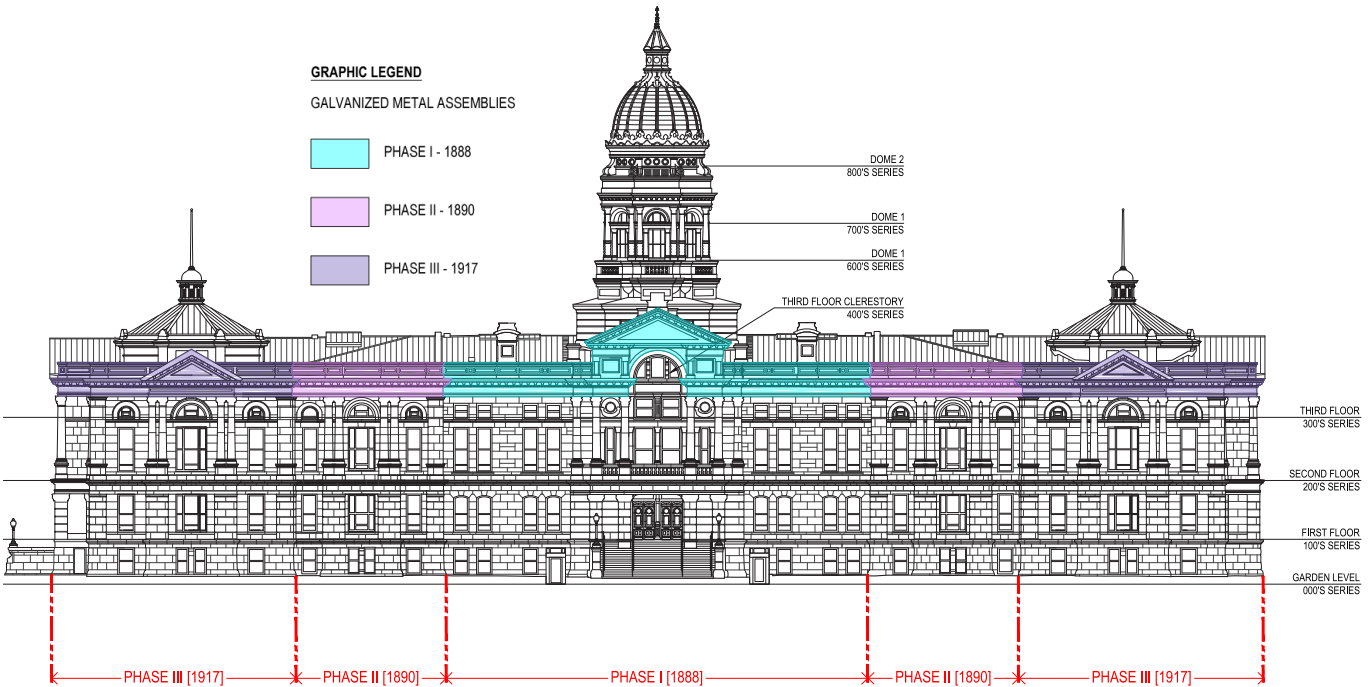


Figure 6.4.2.3 South Elevation Drawing, Identifying Phases of Construction, and Location of Galvanized Metal Assemblies as Shown in the Original Drawings.

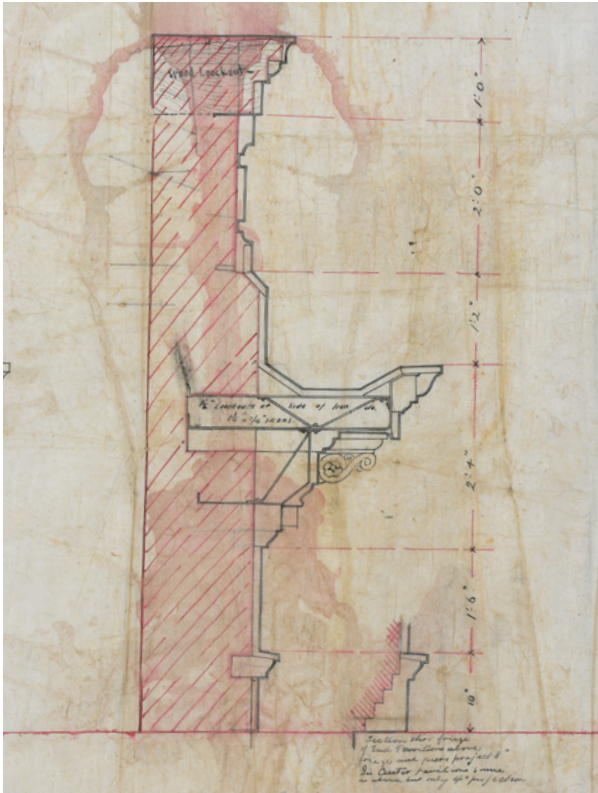


Figure 6.4.2.4 Original Phase I - 1888 Gibbs Drawing, Indicating the Galvanized Sheet Metal and Armature Detail for the Cornice And Parapet Walls.

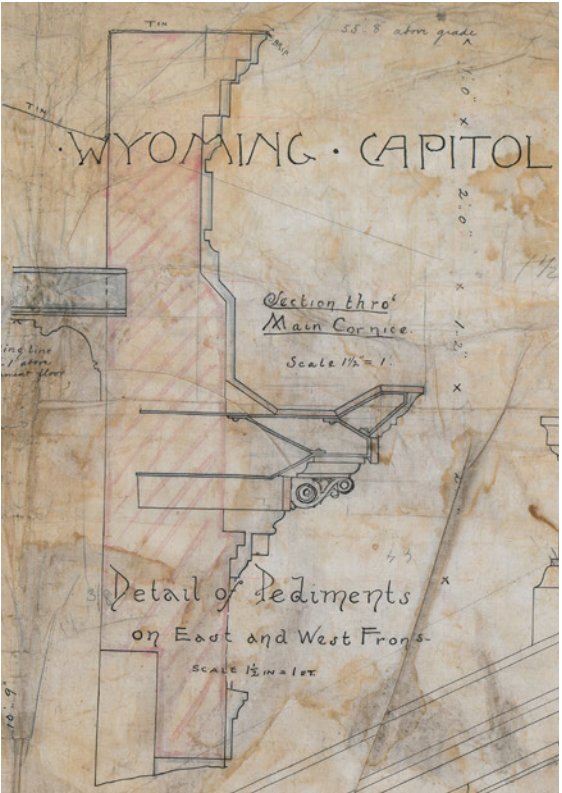


Figure 6.4.2.5 Original Phase II - 1890 Gibbs Drawing, Indicating the Galvanized Sheet Metal and Armature Detail for East and West Cornices.

Existing Conditions: General

Armature/Outriggers

- The original drawings indicate that the armature was modified slightly during each phase of construction, as shown in [Figure 6.4.2.4](#), [Figure 6.4.2.5](#), and [Figure 6.4.2.6](#).
- The 1888 Specifications state that the cornices, pediments and gutters are supported by wrought iron lookouts fastened to the roof framing. In addition, there are 1-1/2" thick wood lookouts at 2'-6" o.c.
- Limited probes of the galvanized metal assemblies were conducted in October 2014. Refer to Field Observation Report – Probe Observations, 10 November 2014. The probes confirmed that the armature/outriggers were modified slightly during each phase of construction.
 - No metal outriggers were visible in the Phase I – 1888 construction. Only wood blocking and wood outriggers were visible, which were embedded in the brick back-up wall. The wood lookouts were spaced as originally specified, at approximately 30" on center.
 - The Phase II -1890 and Phase III- 1917 construction was built as indicated in the original drawings with both metal and wood outriggers.
- Some of the wood outriggers and sheathing showed evidence of decay and deterioration caused by water infiltration through the gutter assembly.

Brick Masonry Back-up Wall

- The brick back-up wall was observed at a few very limited locations. In the Phase II-1890 section of the building, the brick back-up wall appeared to have been thrown together, and the header or bonding courses appeared to have been executed in a haphazard manner.
- The brick in the Phase III – 1917 section of the building appeared harder than the brick in the Phase I -1888 and Phase II – 1890 sections of the building.

Proposed Treatment: General Approach

Repair of Armature / Outriggers

- Coordinate work with Structural Engineer.
- Install galvanized steel outriggers in 1888 section of building, spaced at 30" on center.
- Replace corroded and deteriorated metal outriggers and armature / framework, which support the galvanized metal assembly.
- Assume that 50% of the existing metal armature will be replaced with galvanized steel.
- Assume 50% of the wood lookouts will be replaced with galvanized steel. Assume 50% of the wood lookouts will be replaced with wood.
- Assume 100% of the wood blocking will be replaced.
- Replace 100% of the wood sheathing on top of the cornice.

Brick Masonry Back-up Wall

- Remove loose mortar and damaged/deteriorated brick masonry units; rebuild brick back-up wall as required. Assume 40% of the brick wall will be rebuilt.
- Repoint brick back-up wall. Assume 50% of the back-up wall will require repointing.

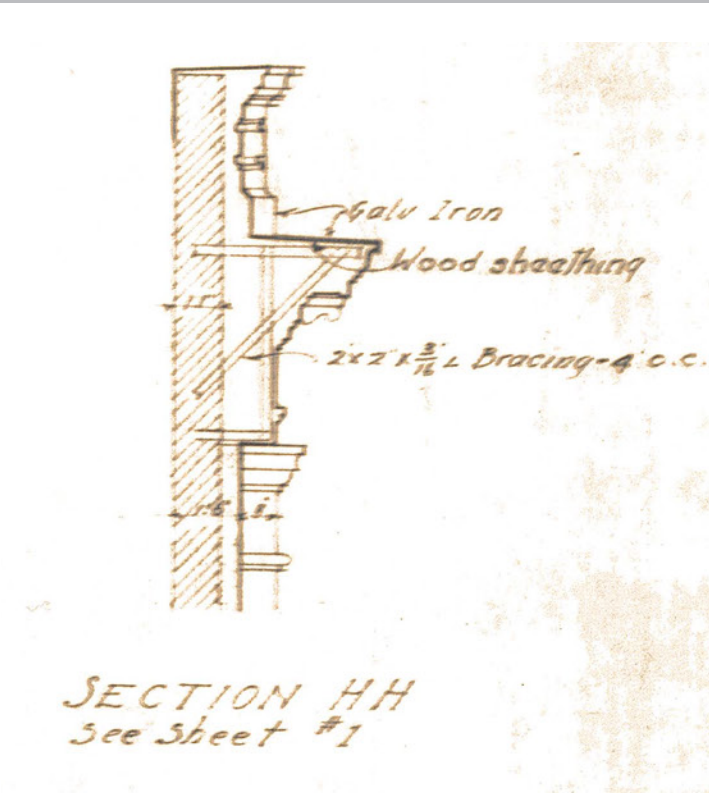


Figure 6.4.2.6 Original Phase III - 1917 Dubois Drawing, Indicating the Galvanized Cornice and Armature Detail at the East Wing, Looking North.





Figure 6.4.2.7 The Areas Shaded Red Are Galvanized Metal Components To Be Replaced With New Galvanized Metal Components At All Pediments.



100% REPLACEMENT



Figure 6.4.2.8 The Areas Shaded Red Are Galvanized Metal Components To Be Replaced With New Metal Components at the Top of the Cornice.



100% REPLACEMENT



Figure 6.4.2.9 Historic Photograph Showing Galvanized Metal Entablature, Pediments and Parapet Walls, ca. 1902.



Figure 6.4.2.10 Typical Ornament at the Pediments. At some locations the ornament has broken or is missing, as indicated by the arrow.



Figure 6.4.2.11 Many Of The Joints Have Been Sealed With Sealant, Which Is Visually Obtrusive And Only Functions As A Short-Term Repair.

Proposed Treatment: General Approach

Restore Galvanized Metal

- Photograph the galvanized metal assemblies in-place, before and after the completion of paint removal.
- Label all components and provide drawings or photographs with each labelled component identified on the building, so that each restored component can be reinstalled at its original location.
- The galvanized metal shall be restored on the ground, so that all repairs can be completed on the back of the galvanized metal assembly.
- The galvanized metal assembly should be mounted to a wood frame so that the repairs can be executed carefully and properly.
- Once the assembly is mounted to the frame, the Contractor shall notify the Professional. The Professional will review the conditions with the Contractor and identify discrepancies between the existing conditions and the Contract Documents. The Owner/Professional shall direct the type and quantity of repair/replacement of individual components.
- All dents shall be removed.
- Dented modillions or dentils shall be removed, repaired and re-attached.
- All punctured elements shall be repaired on the back of the assembly.
- All torn components shall be replaced with new components to match existing sound components unless directed otherwise by the Architect. Assume 15% of all components will be replaced in addition to the component replacement shown in [Figure 6.4.2.7](#) and [Figure 6.4.2.8](#).
- All existing patch repairs on the front of the assembly shall be removed from the front of the assembly. New patch repairs shall be installed on the back of the assembly. All repairs to the galvanized metal assembly and related building components shall be applied to properly prepared substrate.
- All seams on the back side of the assembly shall be cleaned and soldered.
- Small tears and/or severely deteriorated metal conditions shall be photographed and documented for review by the Professional.
- All missing ornament shall be fabricated and installed on the front of the assembly [[Figure 6.4.2.10](#)].
- After repairs are complete and while assembly is on the ground, apply primer and one coat of high performance paint. After the galvanized metal is reinstalled, apply second coat of high performance paint with a sand finish. Coating materials shall be: Prime Coat: Tnemec Series N69F Hi-Build Epoxoline II; Intermediate Coat: Tnemec Series N69F Hi-Build Epoxoline II; Finish Coat: Tnemec Series 1071 Fluoronar).
- Refer to As-Found Drawings for quantities of deteriorated, damaged, and missing elements.

Reassemble and Reinstall Galvanized Metal Assembly

- Install restored galvanized metal assembly with new stainless steel fasteners.
- 100% of the top of the cornice cover is shaped into the form of a tapered gutter and will be replaced with new 16 gauge galvanized steel.
- Provide inert material in between dissimilar metals to avoid galvanic action.



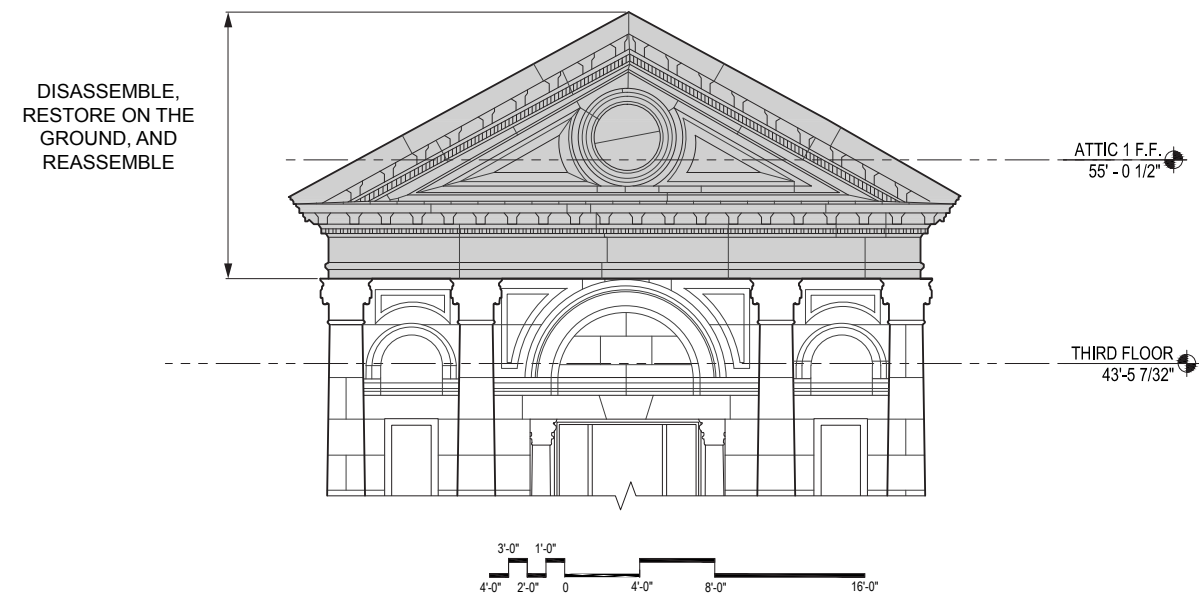


Figure 6.4.2.12 Treatment Approach at Pediments.

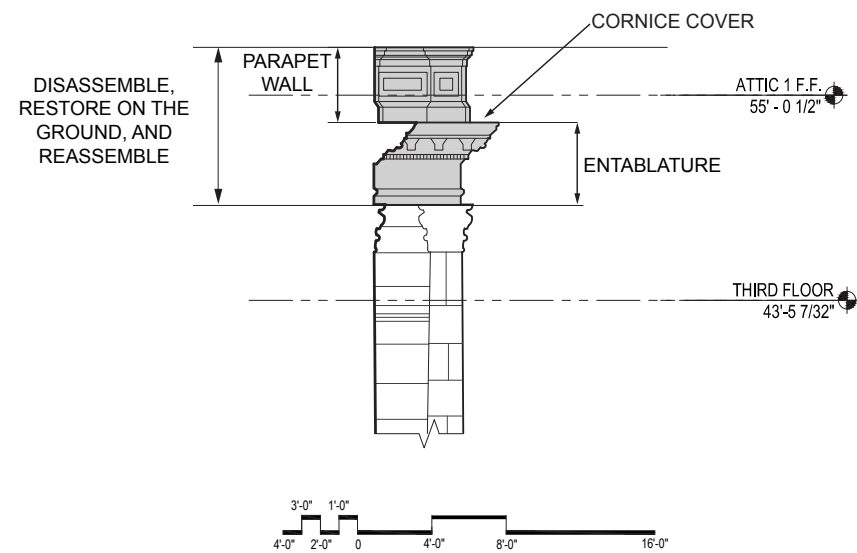


Figure 6.4.2.13 Treatment Approach at Parapet Walls.

Existing Conditions

Entablature

- Multiple layers of paint failure.
- Corrosion evident at base of metal, adjacent to masonry.
- Dents, buckles and creases.
- Overall fair to poor condition.

Cornice Cover / Gutter

- Galvanized steel coated with a fluid-applied material.
- Fluid-applied material not adhered to base metal.
- Gutter is deteriorated and in poor condition. It is rusted completely through at some locations, allowing water to infiltrate the assembly.

Parapet Wall

- Multiple layers of paint failure.
- Dents, buckles and creases.
- Joints filled with sealant [Figure 6.4.2.11].
- Base of parapet wall coated with a fluid applied material.
- Overall fair to good condition.

Pediment

- Multiple layers of paint failure.
- Ornament is missing at several locations [Figure 6.4.2.10].
- Patches are applied to front of the galvanized metal.
- Areas shown in Figure 6.4.2.7 are in poor condition, with torn corners.
- The cover of the horizontal cornice is in poor condition.
-

Proposed Treatment

For all components:

- Photograph the galvanized metal assemblies in-place, before and after the completion of paint removal.
- Label all components and provide drawings or photographs with each labelled component identified on the building, so that each restored component can be reinstalled at its original location.
- Provide inert material in between dissimilar metals to avoid galvanic action.

Entablature

- Follow treatments identified in the general approach for galvanized metal, entablature, pediment and parapet walls.

Cornice Cover / Gutter

- Follow treatments identified in the general approach for galvanized metal, entablature, pediment and parapet walls.
- Replace 100% of the cornice cover / gutter at top of cornice [Figure 6.4.2.8].
- Replace 100% of the wood decking under the gutter.
- Provide custom gutter, sloped to drain.

Remarks: The poor condition of cornice cover / gutter material (galvanized steel) and the required subsequent repairs indicates a need for material review, and possible use of an alternative material.

Parapet Wall

- Follow treatments identified in the general approach for galvanized metal, entablature, pediment and parapet walls.
- Carefully remove fluid-applied product from base of parapet wall.

Pediment

- Follow treatments identified in the general approach for galvanized metal, entablature, pediment and parapet walls.
- Replace 100% of the metal shown in Figure 6.4.2.7.





Figure 6.4.3.1: Close-up of the Protective Netting Installed at the Areas of Distress at the Cornice Above the South Entrance.

Existing Conditions

Open and deteriorated joints

- A significant amount of the masonry deterioration observed is located adjacent to open joints.
- The multiple variations in the texture and color of the mortar indicate that there have been several repointing campaigns over the years.
- At all projecting elements, there is significant mortar loss and cracked, deteriorated mortar joints, particularly at the cornices above the Garden Level and First Floor. At many locations, the stone deterioration is severe, and adjacent to open joints [Figure 6.4.3.3 and Figure 6.4.3.5].
- Several joints were observed which were not properly raked out. A thin layer of new mortar was installed on top of unsound mortar, which has caused the joints to fail.

Proposed Treatment

Open and deteriorated joints

- Repoint 100% of the stone masonry.
- Install lead joint covers at all skyward facing joints at the cornices and other wide projecting elements.



Figure 6.4.3.2: Eroded and Spalled Stone Conditions Adjacent to Open and Deteriorated Joints.



Figure 6.4.3.3: Delaminated, Eroded, Cracked and Spalled Stone Adjacent to Open Joint above South Entrance.



Figure 6.4.3.4: Severely Delaminated Eroded Stone Adjacent to Open Joints at the Cornice Stones Above the South Entrance.





Figure 6.4.3.5: Previous Repair with Square Plates, Rods, and Bolts [at Cracked Stone Lintels].



Figure 6.4.3.6: Typical Pattern of Cracking at the East Elevation. At this location, the cracks have been repaired inappropriately with an epoxy material that stains the masonry.

Existing Conditions

Cracks

East Elevation

- The most significant cracking was observed on the East Elevation where there are vertical cracks through both mortar joints and stone units [Figure 6.4.3.6 and Figure 6.4.3.7].
- Several of the cracks extend from window openings into the jamb.
- In addition, there was extensive cracking of the interior finishes in the East Wing. The Owner has reported that some of these cracks have re-opened since the walls were recently repainted.

North Portico

- Cracks were observed on the East and West interior vestibule walls at the North Portico with corresponding open joints on the exterior.
- During the 1993 masonry survey, cracks were observed in the foundation walls at the North Entrance Pavilion.

Lintels

- Cracked stone units were noted at some stone lintels above windows [Figure 6.4.3.8].
- At the bottom of several lintels, there are steel rods, decorative plate washers and nuts visible, which appear to be original, because they are similar to the steel anchor assemblies shown in the historic drawings. There are also steel rods, square plate washers and nuts, which appear to be repairs visible at the bottom of many other lintels. At a few locations the square or rectangular washer has been installed at the crack in the stone lintel [Figure 6.4.3.5].



Figure 6.4.3.7: East Elevation Cracked Stone and Mortar Joint at the Cornice above a Cracked Stone Unit That Has Been Repaired.

Proposed Treatment

Cracks

- At an assumed 70% of cracked stones, repair by cutting out the crack and installing mortar or cementitious grout, matching existing stone color.
- At an assumed 20% of the cracks, cut out the cracked stone and install Dutchman.
- At an assumed 10% of the cracks, pin the cracks as required.
- Replace all of the cracked stone lintels with new stone units.



Figure 6.4.3.8: Cracked Lintel at South Elevation.





Figure 6.4.3.9: Large Spall Adjacent to a Deteriorated Joint at Projecting Cornices.

Existing Conditions

Spalls and voids

- The majority of spalls and voids evident on the building are associated with wide, open joints and delaminating stone [Figure 6.4.3.9, Figure 6.4.3.11, and Figure 6.4.3.12].
- Several large spalls were noted at exposed edges and corners of the cornice [Figure 6.4.3.10].

Proposed Treatment

Spalls and voids

- In general, composite patch repairs are not recommended, because typically, they are not a long-term solution. Composite patch repairs may be appropriate at voids that are 2 inches square or less in size. Assume composite patch repairs at all small spalls less than 2 inches square and greater than ½-inch deep.
- Repair large spalls, incipient spalls, or voids greater than 2 inches square and greater than ½-inch deep with stone Dutchman.
- At units with large voids or voids across the entire face of the stone, replace the stone unit entirely with new stone.
- At units with large spalls (greater than 35% of the stone face) and where the integrity of the stone unit has been compromised (at areas of severe delamination; see below for definition), replace the stone unit entirely.



Figure 6.4.3.10: Spalled Stone Conditions at Corner of Projecting Cornice.



Figure 6.4.3.11: Spalled Stone Adjacent to Open Joint.

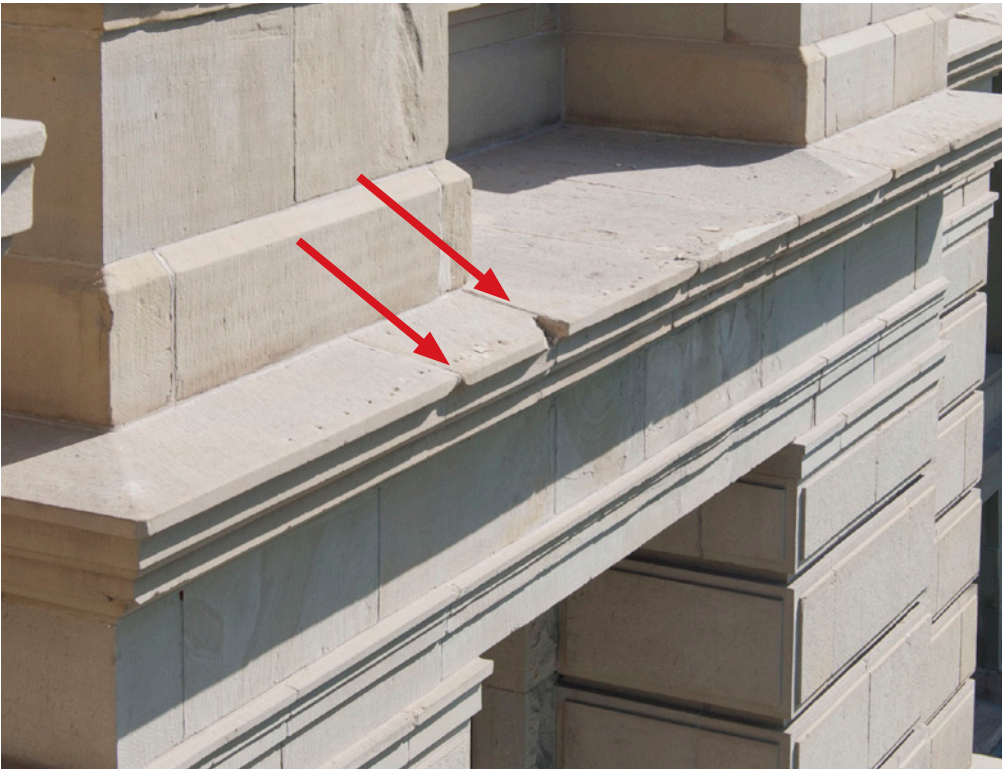


Figure 6.4.3.12: Spalls Adjacent to Open Joints at Cornice.





Figure 6.4.3.13: Typical Delamination at Top Surface at Cornice above First Floor Level.



Figure 6.4.3.16: Severe Distress and Deterioration at the Cornice Units Above the South Entrance. The distress includes delamination, erosion, cracking and efflorescence.

Existing Conditions

Delamination and Erosion

Delamination

- Delamination is the sloughing off of relatively thin layers of stone from the face of a larger stone unit. Most delamination occurs at the exposed projecting horizontal surfaces, particularly at the cornices above the Garden Level and First Floor.
- The most severe deterioration occurs at the South Entrance, where there is delamination and long, horizontal cracks in the sandstone [Figure 6.4.3.16].
- Delamination also occurs at the flat surfaces that once supported the columns at the South Elevation of the Phase II 1890 additions. These columns were moved to the end pavilions when the Phase III wings were completed in 1917, leaving the 1890 top surfaces exposed to the weather [Figure 6.4.3.14].

Erosion

- Erosion is a generalized breakdown of the stone, in which its binders fail and the stone is reduced to its constituent elements. These then fall away or erode under the influence of wind and water movement. Most of the stone erosion observed appears to be occurring as a consequence of the delamination.
- Erosion is evident at the exposed horizontal surfaces of the cornices above the Garden Level and First Floor [Figure 6.4.3.13 and Figure 6.4.3.17].
- It is also evident at the Garden Level window jambs, which have been patched with cementitious patch material.
- Severe erosion has occurred at the West Entrance stairs and column base, where de-icing salts are used regularly [Figure 6.4.3.18].



Figure 6.4.3.14: Delaminated, Eroded Stone at Exposed Horizontal Surfaces at the South Elevation. This exposed sandstone element served as a plinth for two columns constructed as part of the 1890 additions. In 1917 the columns were moved to the new additions at the east and west wings.

Proposed Treatment

Delamination and Erosion

- At stones which have lost 1/8" or less of their surface, tool the stones to match the texture and tooling of the adjacent sound stone. The stone units should be tooled so that there are no ledges at the joints and water is shed away from the building.
- At stones, which have lost more than 1/8-inch and less than 1/2-inch of their surface, tool the stones to match the texture and tooling of the adjacent sound stone or provide stone dutchman repair. The stone units should be tooled so that there are no ledges at the joints and water is shed away from the building. Assume 30% of these repairs will be stone dutchman repairs.
- At severely delaminated or eroded sandstone units (stone loss greater than 1/2-inch), replace stone unit entirely.
- Apply a cold-fluid applied membrane to 100% of the exposed top surfaces of the stone pilaster capitals, located directly below the galvanized metal entablature and to 100% of the top surfaces of the 1890 column bases.



Figure 6.4.3.15: Delaminated Stone at South Portico Where There Is a Leaking Internal Leader.



Figure 6.4.3.17: Typical Delamination at Top of Cornice.



Figure 6.4.3.18: View of Severe Erosion at West Entrance Due to the Use of De-Icing Salts.



Figure 6.4.3.19: South Elevation, View Looking North. The red rectangle identifies the area of masonry distress and deterioration at the cornice above the south entrance and the protective netting installed as a result.



Figure 6.4.3.20: Delaminated, Eroded Stone at the North Portico Caused by Malfunctioning Rain Leaders.



Figure 6.4.3.21: View of the Scupper at Cornice above South Elevation. Note the Stone Deterioration Adjacent to the Scupper.





Figure 6.4.3.22: Cracked Patch Repair at the Corner of the Cornice on the North Elevation.

Existing Conditions

Previous Repairs

- Several composite patch repairs that do not match the color of the stone were noted, particularly at the cornice stone units [Figure 6.4.3.22, Figure 6.4.3.23, and Figure 6.4.3.24].
- Many of the patches have cracked and failed [Figure 6.4.3.23].

Proposed Treatment

Previous Repairs

- At failed patches, patches with a poor color match, or poorly implemented patch repairs, replace patches less than 2 inches square with composite patch material.
- At failed patches, patches with a poor color match, or poorly implemented patch repairs, replace patches greater than 2 inches square with dutchman repairs or new stone units depending upon the size of the patch. If the existing patch is 35% of the face of the stone unit or greater, replace the stone unit with new stone.
- At failed dutchman repairs, replace with a new stone dutchman repair.
- At existing sound dutchman repairs with open joints, repoint joints.

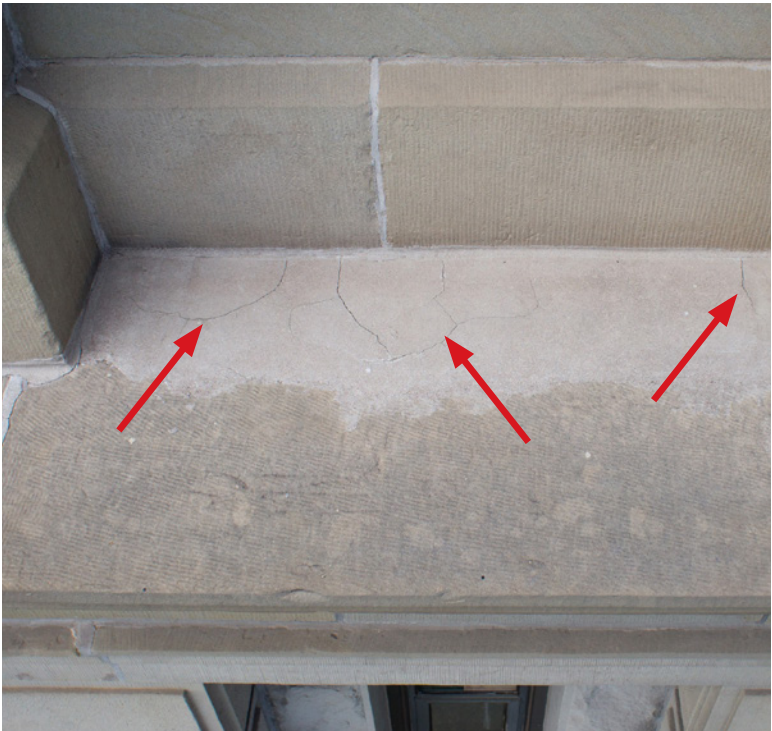


Figure 6.4.3.23: Cracked Patch Repair at the Cornice Below a Window at the South Elevation.



Figure 6.4.3.24: Cracked and Failed Patch Repair at the Cornice at the South Entrance. Some of the patches are in danger of breaking off and falling.

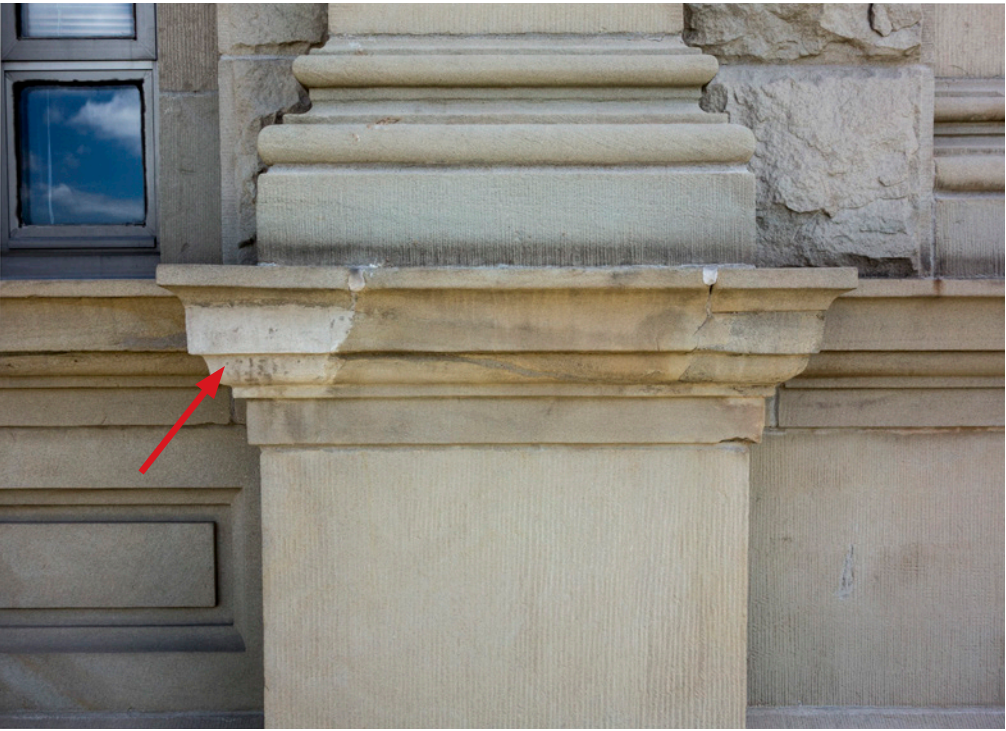


Figure 6.4.3.25: Poor Patch Repair at West Elevation.





Figure 6.4.3.26: Typical Staining Patterns at Cornice.

Existing Conditions

Anchors

- Both ferrous and nonferrous anchors in the stone masonry were noted at various locations throughout the building.

Soiling

- The sandstone is moderately to lightly soiled with isolated areas of dark soiling.
- The darkest soiling occurs at cornice projections. Some of the darkened appearance and discoloration at the cornices may be attributed to the consolidation and water repellent treatments previously applied to the cornice [Figure 6.4.3.26 and Figure 6.4.3.39].
- There are localized heavy accumulations of guano, particularly at the column pilaster capitals and in the sheltered porticos on the south, west and north elevations [Figure 6.4.3.27].

Proposed Treatment

Anchors

- At abandoned anchors, remove the anchors and patch stone with composite patch material.
- At functional anchors, replace ferrous anchors with stainless steel anchors or fasteners.

Cleaning

- The Design Team recommends conducting cleaning tests to determine the gentlest methods available to clean the stone. The cleaning tests will be designed to remove the following soiling:
 - atmospheric soiling
 - efflorescence
 - guano
 - biological staining.
- Assume that the buiding will be cleaned in its entirety with detergents, low-pressure wash, and chemical cleaners.



Figure 6.4.3.27: Typical Accumulations of Guano at the Top of the Pilaster Capitals.



Figure 6.4.3.28: Biological Staining at Base of Building.



Figure 6.4.3.29: Efflorescence and Delamination at Some Locations in the Entablature Below the Cornice.





Figure 6.4.3.30: Egress Stair installed at the North Elevation in 1958.



Figure 6.4.3.31: Masonry Cut and Damaged to Accommodate the Fire Stair Handrails at the North Elevation.

Existing Conditions

Fire Egress Stairs and Glass Vestibules at North Entry

- The two existing fire egress stairs were installed in 1958 [Figure 6.4.3.30].
- The two glass vestibules were installed at the north Garden Level entries in 2002 [Figure 6.4.3.32].
- The masonry was damaged as a result of the installation of all of these structures.
 - Stairs: The stone was cut to accommodate the metal structure and the railings [Figure 6.4.3.31].
 - Stairs: Stone lintels and sills were removed and concrete infill panels were installed to convert window openings into door openings.
 - Vestibules: the stone cornice above the Garden Level was cut to receive the roof structure [Figure 6.4.3.34 and Figure 6.4.3.35].
 - Stairs and Vestibules: Damage was done to the masonry during the installation, resulting in both large and small spalls in both flat and profiled stone. There appears to be some masonry staining related to the application of adhesives/epoxies used during the installation.
 - Stairs and Vestibules: Over time, leaks have caused rust staining on the stone [Figure 6.4.3.35].

Proposed Treatment

Fire Egress Stairs and Glass Vestibules at North Entry

- Carefully remove exterior fire stairs.
- Carefully remove glass vestibules at North Elevation, Garden Level.
- Restore damaged masonry by stone dutchman repairs and stone unit replacement, per requirements outlined earlier in this section.
- Replace all missing sills and lintels with new stone units, per requirements outlined earlier in this section.
- Repair spalls with stone dutchman, per requirements outlined earlier in this section.

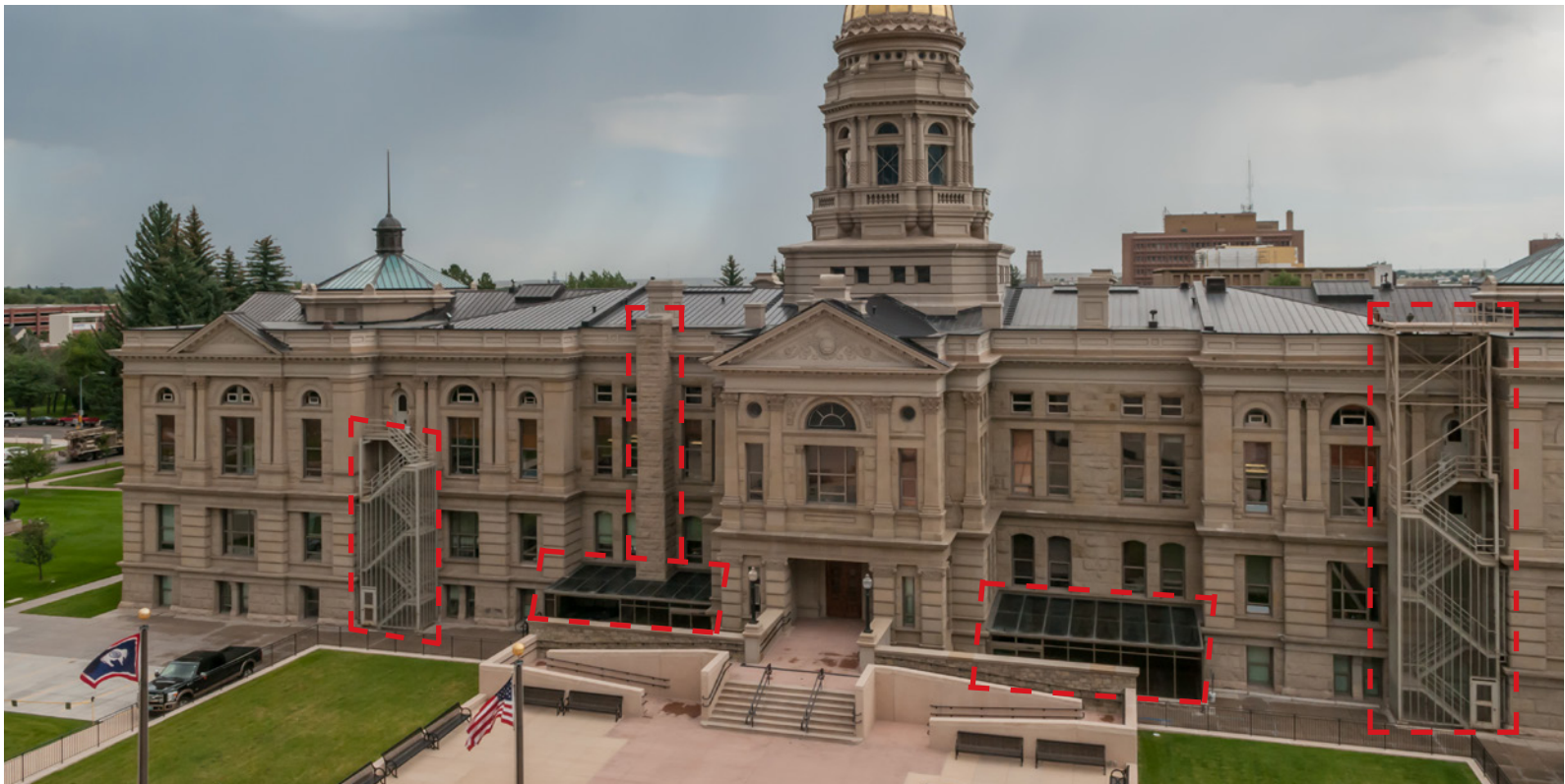


Figure 6.4.3.32: North Elevation, ca. 2013, Showing Locations of Egress Stairs, Glass Vestibules, and Chimney.



Existing Conditions

Stone Chimney

- A stone chimney was added to the northeast side of the building. It is not original to the building [Figure 6.4.3.32].

Proposed Treatment

Stone Chimney

- Coordinate work with Structural Engineer.
- Remove stone chimney and restore stone wall.
- Assume that 100% of the stone behind the chimney and approximately one foot on either side of the chimney shall be replaced with new stone and/or repair of existing stone.



Figure 6.4.3.33: Stone Chimney at North Elevation.



Figure 6.4.3.34: Spalled Stone Adjacent to Glass Enclosure at the North Elevation.



Figure 6.4.3.35: Damage and Staining to Stone Caused by Installation of Steel Structure at Glass Enclosures at the North Elevation.





Figure 6.4.3.36: View of South Entrance Stairs.



Figure 6.4.3.37: View of West Entrance Stairs.

Existing Conditions

Restoration of the Exterior Monumental Entrance Stairs

South Entrance Stairs

- The South Entrance Stairs were replaced with new stone in recent restoration campaigns [Figure 6.4.3.36].

West Entrance Stairs

The West Entrance Stairs are in poor condition. There are wide, open joints and spalled, eroded stone throughout [Figure 6.4.3.37].

- There are areas where the application of deicing salts has severely eroded the stone.
- There are wide, open joints, efflorescence and active water infiltration evident in the brick support structure below the stairs.

North Entrance Stairs

- The North Entrance Stairs were reconfigured in 2010 when the plaza north of the Capitol was redesigned [Figure 6.4.3.38]. The work included:
 - Removal of north exterior entrance stairs
 - Relocation of stone cheekwalls
 - Construction of new landing outside north entrance
 - Construction of new North Entrance stairs and handicapped ramps with high retaining walls.
- The reconfiguration of the North Stairs has altered the way in which the North Elevation relates to the landscape. The monumental character of this entrance has been eliminated.



Figure 6.4.3.38: View of North Entrance Stairs.

Proposed Treatment

Restoration of the Stairs

South Entrance Stairs

- Remove metal railings.
- Carefully disassemble South Stairs and portions of cheek walls as necessary to remove steps; salvage sound stone for reuse.
- Protect and store stone units for repair and reassembly.
- Protect masonry support structure.
- Reconstruct stairs. Replace/reuse stone treads. Assume 50% of the treads will be replaced.
- Reassemble stairs.
- Provide new metal railings with built-in lighting.

West Entrance Stairs

- Remove metal railings.
- Carefully disassemble West Stairs and cheek walls
- Salvage sound stone at steps for reuse in dutchman repairs at other locations on building.
- Salvage cheek walls for repair and reassembly.
- Protect masonry support structure.
- Rebuild brick structure supporting stairs as directed by the Structural Engineer. Repoint 100% of brick structure supporting stairs.
- Reconstruct stairs and reassemble cheek walls. Assume replacement of 100% of the stone treads. Assume 50% replacement of cheek walls.
- Provide new metal railings with built-in lighting.

North Entrance Stairs

- Remove metal railings.
- Carefully remove existing cheek walls.
- Carefully disassemble stairs as required to remove cheek walls. Salvage stone treads for reuse. Protect and store stone units for repair and reassembly.
- Protect masonry support structure.
- Provide new metal railings with built-in lighting.
- Reconstruct cheek walls and reconstruct / reassemble stairs to match materials, configuration and design of historic North Stairs, accommodating proposed Connection to the Connector below with a reduced number of treads and risers.



6.4.4 SCOPE OF WORK: EXTERIOR - WINDOWS



Figure 6.4.3.39: Windows N240A/B, and N340A/B with Applied Aluminum Cladding at Arched Wood Sash and Replacement Aluminum Sash at Rectangular Windows. Aluminum Cladding Conceals the Original Wood Frame, Revealed at Left Jamb.

Components

- Exterior Window Frames
- Window Sashes

Comments/Remarks

- Refer to Volume III A of this Report for historic analysis, assessment, conditions and design intent for each window.



Figure 6.4.3.40: Window W271 with Historic Profiled Wood Frame Exposed on Right During Probe.

Existing Conditions: General

Exterior Window Frames

- Garden Level through Third Floor
 - All rectangular window frames are covered with L-shaped heavy-gauge aluminum cladding at heads, jambs and sills.
 - All wood arched and circular window frames are covered with sheet aluminum cladding cut to shape.
 - Sealant exists at corner joints, frame perimeter at masonry, and at the junction of sashes and frames.
 - Window exposure probes revealed the original profiled wood frames beneath the cladding at multiple locations [Figure 6.4.3.39, Figure 6.4.3.40, Figure 6.4.2.4, Figure 6.4.3.41, Figure 6.4.3.42, Figure 6.4.3.43, and Figure 6.4.3.44]
- Attic 2 and Dome 1 and 2
 - All windows in the Dome and Dome Base 500 through 800 - series appear to have painted wood frames with square profiles and flat, painted, galvanized metal exterior surrounds.

Window Sash

Most historic window sash were replaced during the 1970's building campaigns. Existing sash are double-glazed aluminum replacement windows with an operable awning and/or hopper sash and fixed lites, except at the following locations. Refer to Volume III of this Report for window numbers and locations.

- Third Floor and Third Floor Clerestory Windows – 300 and 400-Series:
Arched and circular sash are wood and appear to be original, with some modifications. The original sash is no longer operable.
- Attic 2 – 500 Series
Existing rectangular sash appear to be historic at 5 of 12 openings. 6 of the openings have been modified with louvers and 1 has been retrofitted with a roof access panel.
- Dome 1 – 600 & 700 Series
Rectangular and half-round wood sash were replaced with aluminum replacement single-paned sash in configuration similar to the original.
- Below Dome Roof – 800 Series:
Round wood replacement sash are secured with screws from the interior.

Proposed Treatment

Window Frames

- Remove aluminum cladding, sealant, and associated fasteners from head, sill, and jambs of all window frames below the Roof at Third Floor through Garden Level.
- Prepare window frames at Dome and Dome Base [combination of galvanized metal covering and exposed painted wood frame with square profile.]
- Clean stone at masonry jambs with chemical cleaner to remove all sealant at removed aluminum cladding. Provide Mock-ups for review prior to starting the work.
- Repair, recondition, and paint all wood window frames and sills. Assume 20% component replacement at exterior window frames, and 20% sill replacement.
- Paint frames “stone” color to match Historic Design intent. Paint finish to be sanded to match the historic design intent.
- Provide new frames at 8 locations to match historic window frames:
 - 2 Garden Level doors on East and West Elevations
 - 4 fire escape doors at the Second and Third Floors on the North Elevation
 - 2 in-filled former window openings at Garden Level, east of northeast entry.

Interior Window Surrounds

- Provide wood window stools and surrounds in historic profiles where existing surrounds are drywall or are non-historic (trim and casing) including windows at Garden Level.
- Restore/repair/re-finish to match existing historic wood window surrounds in limited areas such as where heads may have been previously cut for drapery pockets.
- Clean historic interior surrounds and finish where required to match existing finish after repairs.



Figure 6.4.3.41: Window S309 with Wood Sill and Profiled Historic Wood Frame Exposed during Probe.



6.4.4 SCOPE OF WORK: EXTERIOR - WINDOWS



Figure 6.4.3.42: Window W872A with Replacement Wood Sash



Figure 6.4.3.43: Historic Sash at Window S314 with Historic Wood Surround



Figure 6.4.3.45: Historic Wood Surround and Replacement Sash at Window W175

Components

- Interior Window Surrounds
- General Exterior Observations

Comments/Remarks

- Refer to Volume III A of this Report for historic analysis, assessment, conditions and design intent for each window.



Figure 6.4.3.44: Replacement Sash at Window S309 with Historic Wood Surround



Figure 6.4.3.46: Historic Wood Surround and Replacement Sash at Window N144

Existing Conditions: General

Interior Window Surrounds

- First through Third Floors
 - Wood trim appears to be historic, with the exception of the new wood sash stop added at the junction of the retrofitted aluminum sash frame and original wood trim.
- Garden Level
 - Original trim surrounds have been painted, removed or covered with drywall up to the replacement window stop. Most stools have been removed. Window heads are hidden by dropped acoustic tile ceilings or drapery pockets in most locations.
- First Floor
 - Dutchman repairs at the jambs indicate locations of historic interior shutter hardware.
- Conditions
 - Slight water staining at the sill in some locations, probably as a result of condensation due to indoor /outdoor temperature differential, rather than the result of an active leak.
 - Stools have been notched and items fastened to jamb trim to install bathroom partitions at 4 restrooms on Second and Third Floors.
- Decorative Metal Screens and Interior Wood Shutters
 - Although there is historic documentation for decorative metal screens at Third Floor windows in Phase 2, and Interior wood shutters at First and Second Floors in Phases 1 and 2, Reinstallation of these elements is not recommended due to potential conflict with window operation.

Exterior Appearance

Replacement of nearly all the sash resulted in a significant change in the appearance of the building due to alteration in the visual rhythm of the muntins [Refer to Volume III A, Figure 17). The original single hung and double hung units were replaced with small hopper/awning units set in fixed lites: [Figure 6.4.3.39 and Figure 6.4.3.40]

- First and Second Floors at Phases 1,2, and 3
 - Horizontal muntins were added across a lower lite to accommodate a hopper/awning.
- Third Floor of the Phase 1, North and South Elevations
 - These rectangular windows originally had no muntins. Horizontal muntins were added to windows to accommodate a hopper/awning.

Window Sash

Assumptions:

- All historic locations of double hung sash will become single hung sash with fixed top sash.

Option 1: Wood Sash and Wood/Steel Composite Sash with Insulated Glazing Units and Laminated Safety Glass

Third Floor through Garden Level

- Remove aluminum replacement sash at all windows. Install new wood sash as follows:
 - For windows 5' or less in width, double-glazed wood sash constructed of finish-grade, old-growth, Long-leaf Yellow Pine, or old-growth Douglas Fir.
 - For windows that exceed 5' in width [approximately 28 windows], provide steel sash core with applied interior and exterior facing of finish-grade old-growth Long-leaf Yellow Pine, or old-growth Douglas Fir.
 - Insulated Glass Units to include:
 - i. Exterior Pane: Tempered glass with low-E coating equivalent to Pilkington
 - ii. Spacers and gaskets with custom finish to match sash exterior paint color
 - iii. Interior Pane: Laminated Security Glass with 0.090" PWB protective layer equivalent to Saflex glazing interlayer
 - Provide all new sash with tilt-in capability for cleaning
- Remove aluminum facing at all existing historic round and half-round-arched sash at Third Floor and Third Floor clerestory. Remove and restore wood sash to accommodate new Insulated Glass Unit, and reinstall. Restored windows to include tilt-in operation.
- Ventilation: The majority of windows will open approximately no more than 6" for ventilation. Approximately 28 windows, those exceeding 5' in width, will be too heavy to be operable. Existing historic round and half-round-arched sash at Third Floor and Third Floor clerestory will have tilt-in, limited operation for ventilation.
- Cleaning: Interior glass of all windows will be readily cleanable from the interior. The majority of windows will have tilt-in capability from the interior for cleaning exterior glass. Approximately 28 windows, those that exceed 5' in width, require custom equipment for cleaning exterior glass from the interior due to weight of the sash.
- Historic single-glazed sash was 2 1/4" thick with profiled interior and glazed exterior. Increasing the thickness of the glass unit will impact the interior and/or exterior profile.
- In order to maintain historic relationship of frame and sash, components of the existing frame will need to be removed [from exterior] for installation of new operable sash with integral frame.
- Increasing the thickness of the glass unit may impact the placement of new sash locks to match historic design intent. Provide allowance for 2 cam locks per sash [at jambs].



6.4.4 SCOPE OF WORK: EXTERIOR - WINDOWS

Existing Conditions: General [continued]

- Third Floor Center Bay of Phase 2
 - The four half-round windows originally had a single vertical muntin. This was replaced by one horizontal and two vertical muntins to install a hopper/awning.
- Remainder of Third Floor in Phase 2 and all Third Floor windows in Phase 3
 - These half-round and rectangular windows originally had no muntins. One horizontal and two vertical muntins were added to install a hopper/awning.

Option 2: Interior Storm Windows with Wood Sash and Wood/Steel Composite Sash with Laminated Safety Glass

Third Floor through Garden Level

- Same as Option 1 except new wood sash will be single-glazed with:
 - Laminated Security Glass with a 0.090” PWB protective layer
- Remove aluminum facing at all round and half-round-arched sash at Third Floor and Third Floor clerestory. Remove and restore wood sash to accommodate new Laminated Security Glass and reinstall.
- Provide removable interior storm windows with tempered glass panes. Storm windows to be fabricated with finish-grade, old-growth, Long-leaf Yellow Pine, or old-growth Douglas Fir, and to be finished to match the interior finish of the historic design intent of the wood sash
- Single-glazing with laminated security glass will have some, but less, dimensional impact than double-glazing on the interior and/or exterior sash profiles (Option 2). Option 2 glazing will be lighter in weight than Option 1.
- Low-E coating cannot be provided at the laminated outer pane. (Low-E coatings reduce summer energy use for cooling by reflecting outdoor heat away from the window back toward the outdoors.)
- Ventilation: Interior storm windows will not be readily removable, requiring maintenance staff to remove them. Consequently, the sashes will be inoperable for ventilation.
- Cleaning: The majority of windows will have tilt-in capability for cleaning exterior glass from the interior, but interior storms will need to be temporarily removed for cleaning interior and exterior glass.

To be included with both Options 1 and 2:

- All new wood sash to have interior wood profile and exterior glazing profile to approximate historic design intent.
- Replace windows at Dome with single-glazed wood sash to match the historic design.
- Provide new windows to match selected option at:
 - 1 Garden Level louver on South Elevation of West Stair
 - 2 Garden Level door openings on East and West Elevations
 - 4 fire escape door openings at the Second and Third Floors on the North Elevation
 - 2 new windows at current in-filled window openings at Garden Level, east of northeast entry.
- Provide 2 bronze lifts and 1 bronze lock at all historic locations of double hung sash [Second Floor through Garden Level], to match historic design intent [“Champion” pattern]. For windows that exceed 5’ in width, provide 2 sash locks. Basis of Design: House of Antique Hardware item # R-09 RP-101, Cast Iron Windsor Pattern Sash Lock
- Provide allowance for new sash hardware at third floor windows.
- Paint sash exterior to match historic design intent [dark olive/ bronze green color]. Finish sash interior to match existing historic interior wood finish.
- Provide decorative extensions of the stiles that drop below the meeting rail [referred to as “horns” or “joggles”] on all new upper sash of double hung sash in the Phase 3 period of construction [87 windows].
- Modified Sash
 - 4 Garden Level windows [Rm 19 and 49] to be “glazed” with perforated bronze panels with an outdoor air intake louver on the interior.
 - 9 Dome Base window openings will have perimeter outdoor intake louvers at the head and jambs of the opening, and new sash to match the historic single-glazed fixed sash.
 - 3 Dome Base window openings will have perimeter outdoor intake louvers at the head and jambs of the opening, and will be fitted with roof access doors to match the size of the historic window opening.



Figure 6.4.3.47: Historic Wood Surround at Window N353.



6.4.5 SCOPE OF WORK: EXTERIOR - DOORS



Figure 6.4.3.48: North Elevation Entry Doors at Exterior Opening 137-1a.



Figure 6.4.3.49: South Elevation Entry Doors at Exterior Opening 137-2a.

Component

- Exterior and Vestibule Monumental Doors at First Floor, South, North and West Entrances [Figure 6.4.3.48 and Figure 6.4.3.49]

Comments/Remarks

- Refer to Volume III B of this Report for historic analysis and conditions assessment. For Scope of Work, refer to this Section 6.4.5 and Volume III B in combination.

Existing Conditions

Exterior and Vestibule Monumental Wood Doors

Door Leaves

Finishes

- All monumental exterior doors exhibit weathered exterior finishes and multiple dutchman repairs at the locations of former door latch and slide bolt hardware, and at the astragals.
- The finishes at the West First Floor entry doors exhibit greater finish deterioration.

Operation

- Originally, door swings were in the direction of entry, but were changed to the direction of exit sometime between 1935 and 1974 to accommodate current egress standards, as evidenced by historic photography.

Hardware

- The existing panic hardware is not a historic type and interrupts the trim detail on the interior side of the exterior doors [Figure 6.4.3.50].

Door Surrounds

- Dutchman repairs at the door frame indicate in-filled mortised hinge locations consistent with the inswing of the doors, indicated in historic photographs.
- As a part of retrofitting the doors for outswing operation, the exterior arched pediments at each pair of doors was modified at the outside edge to allow the door to swing open against the masonry opening.
- The exterior wood frames exhibit some drying and cracking at the base where they come in contact with the stone landing.

Proposed Treatment

- The existing First Floor Monumental exterior and vestibule doors at the South, West, and North entrances will be refurbished. Existing exit hardware will be replaced with new hardware sensitive to the historic fabric.
- Although the original Monumental entry and vestibule doors at the South, West, and North elevations were historically inswing doors and were modified as outswing doors in the 1970s, these doors will retain their current outward direction of swing for egress.
- The landings at the top of the steps at the South and West do not meet current egress codes because they are one step down from the First Floor. The current condition will be maintained.
- All exterior doors will be provided with concealed access card readers.
- The Monumental exterior and vestibule doors at the South, West, and North entrances shall be carefully removed by Master Carpenters for restoration in the shop.
- The transom windows and frames shall be protected and restored in place.
- For budgeting purposes, the CM should consider that the frames of the exterior and vestibule doors may need to be carefully disassembled for purposes of installing concealed access card readers, ADA power assist mechanisms, and wiring.



Figure 6.4.3.50: Existing Interior Exit Hardware Overlaps Historic Molding Profiles located on the Interior Face of the Exterior Doors.



SCOPE OF WORK: EXTERIOR - DOORS



Figure 6.4.3.51: Garden Level Door B54-1 with Replacement 'Storefront' Door, Sidelights and Frame.



Figure 6.4.3.52: Garden Level Door B53-1 with Replacement 'Storefront' Door, Sidelights and Frame.

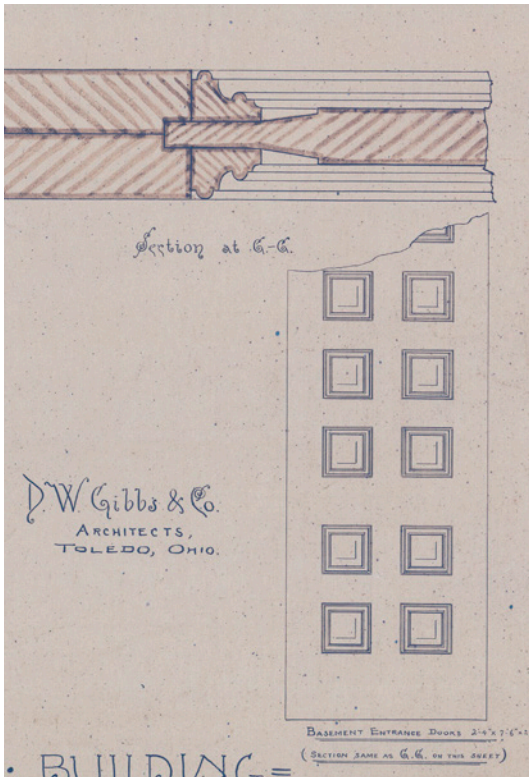


Figure 6.4.3.53: c.1890 Gibbs Drawing Showing Paneled Garden Level Door



Figure 6.4.3.54: c.1902 Photograph of Paired Paneled Garden Level Doors with Transom Above

Components

- Garden Level Doors
- Fire Escape Doors at North Elevation, Second and Third Floors

Comments/Remarks

- Refer to Volume III B of this Report for historic analysis and conditions inventory. For Scope of Work, refer to this Section 6.4.5 and Volume III B in combination.

Existing Conditions

Garden Level Doors

Leaves and Surrounds

Historically, the four exterior doors at the Garden Level in the 1888 portion were paired [2] 2'-4" x 7'-6" x 2 1/4" wood doors with a pattern of 12 raised panels, with a glass transom above. These openings currently accommodate doors and frames of all aluminum and glass "storefront." Based on the narrow dimension of the aluminum frames, it is doubtful that any wood door frames remain beneath [Figure 6.4.3.51 - Figure 6.4.3.54].

West Elevation

The historic openings at the west entry stair cheekwalls now contain:

- At the north side, a painted hollow metal door and frame to replace the original 1917 door
- At the south side, a fixed louver in the former original 1917 window opening
- The door within the former window opening on the north side of the west entry stairs is metal with a wire glass window.

East Elevation

The door within the historic window opening is an aluminum "storefront" unit with sidelites and a narrow aluminum frame.

Landings

Door openings in the 1888 Phase I section are positioned slightly lower than grade and are accessed by steps and non-historic ramps, bounded by a retaining wall.

Metal North Fire Escape Doors Second and Third Floors

- These doors are painted steel. Those at the Third Floor have round-arched tops to fit the original window openings.
- There is no indication of significant damage from water infiltration but exterior finishes are degraded [Figure 6.4.3.55 and Figure 6.4.3.56].

Proposed Treatment

- All exterior doors will be provided with concealed access card readers.
- Exterior doors and frames at the Garden Level will be reconstructed as single doors based on the historic wood paneled design, with transom [Figure 6.4.3.53], and will have ADA power assist mechanisms.
- 2 Historic window openings at the Garden Level that were converted to door openings will be fitted with windows.
- 4 Historic window openings at the Second and Third Floors that currently contain egress doors connecting to the exterior fire escape will be restored as windows.
- The door at the west entry stair cheekwall on the North Elevation will be replaced with a 2 1/4" wood paneled door.



Figure 6.4.3.55: Fire Escape Door At Former Window Opening 'N364'



Figure 6.4.3.56: Fire Escape Door at Modified Former Window Opening 'N242'



6.4.6 SCOPE OF WORK: EXTERIOR - SKYLIGHTS

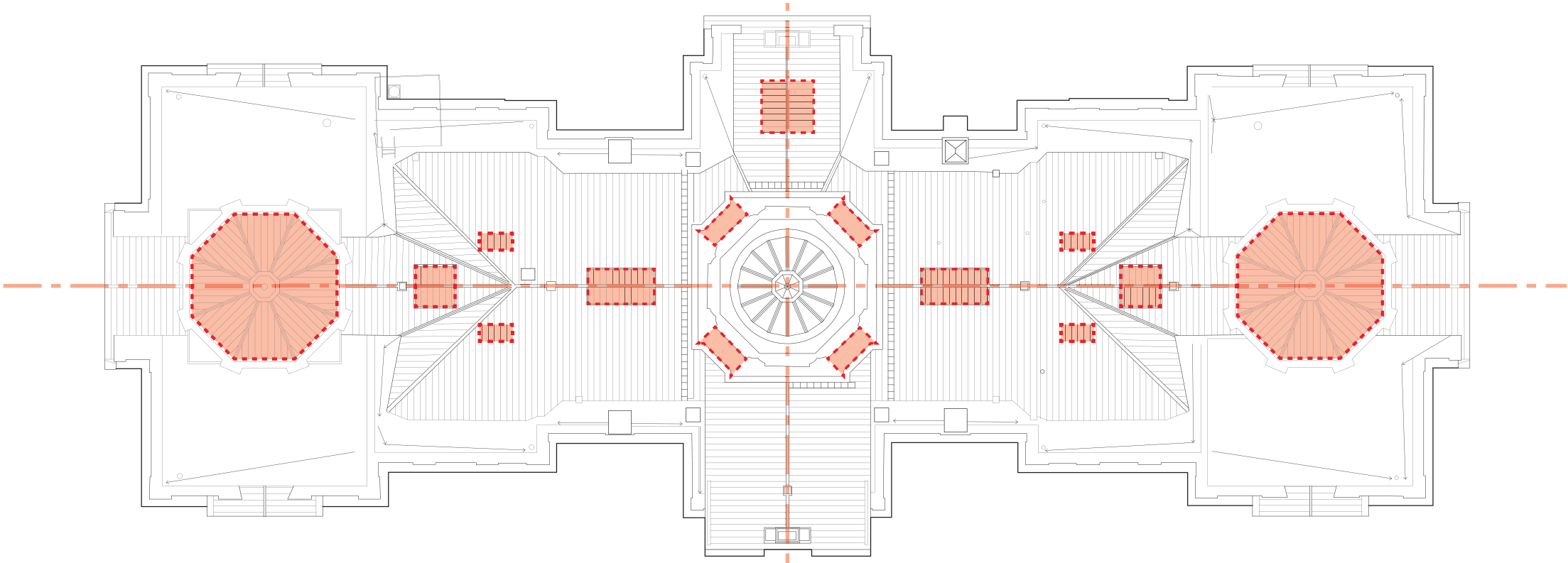


Figure 6.4.6.1: Roof Diagram Showing Historic Skylight Locations

Components

- Skylights

Existing Conditions

- No historic skylights remain.



6.4.6 SCOPE OF WORK: EXTERIOR - SKYLIGHTS

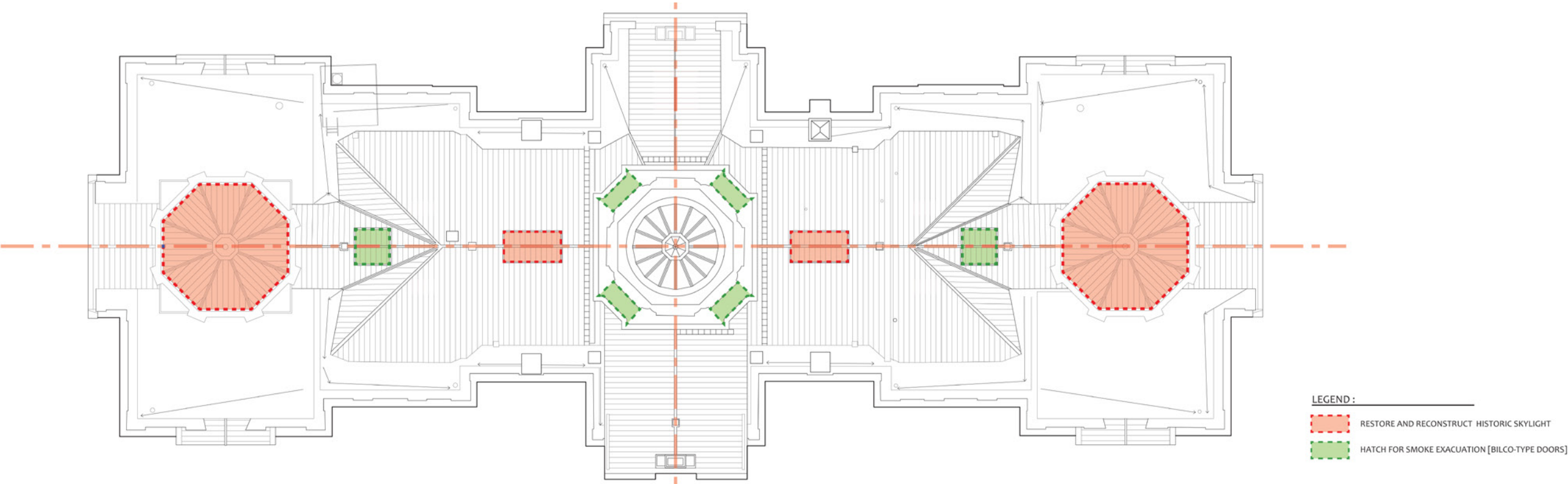


Figure 6.4.6.2: Roof Diagram Showing Proposed Skylights and Hatches Installed in Historic Skylight Locations

Components

- Skylights and Hatches

Existing Conditions

- The skylights and cupolas above the House and Senate Chambers are not restorations.
- All other historic skylights were previously removed and their openings were roofed-over.
- The locations of some roofed-over historic skylight openings are visible as framed openings at the underside of the roof and as caps on top of the roof.

Proposed Treatment

- Remove existing skylights above House and Senate Chambers. Retain existing structure below.
- Remove existing roofing ‘caps’ above the historic locations of:
 - skylights above Monumental Stairs
 - skylights above Rotunda
 - skylights above 1890 Section
- Install new skylights in historic openings based on historic evidence, including the Dubois and Gibbs drawings, photographs, historic specifications, etc., above:
 - House and Senate Chambers
 - two Monumental Stairs
- Provide new insulated glazing (double), with safety glass as the outer layer, at new skylights.
- Install new automatically-opening smoke exhaust hatches in historic skylight openings above:
 - Rotunda
 - 1890 Section
- Install new cladding system coordinated with the new roof system and new flashing.
- Install new cupolas based on historic evidence above House and Senate Chambers skylights.



6.5.1 INTRODUCTION

The Wyoming State Capitol is in generally good condition. However, numerous modifications to the building since the early 1920s were not designed with the *Period of Significance* of the Capitol in mind. In addition, the current space planning is inefficient and the building is generally not up to contemporary life safety, accessibility and building services standards.

The Existing Conditions and Itemized Recommendations are outlined by space on the pages that follow. The Architectural drawings in the Schematic Design Set and the Table of Contents of the Specifications issued with this report provide additional details regarding the scope of work for the project.

Spaces/Issues Included:

- 6.5.2 Rotunda & Monumental Corridors
- 6.5.3 House and Senate Chambers
- 6.5.4 Committee Rooms
- 6.5.5 Governor’s Suite and Ceremonial/’Signing’ Room
- 6.5.6 Office Suites
- 6.5.7 Service Cores
- 6.5.8 Connection to the Connector to the Herschler Building
- 6.5.9 Attic
- 6.5.10 Support / Service Areas
- 6.5.11 Interior Doors
- 6.5.12 Accommodation of Building Systems
- 6.5.13 Acoustical Treatment of Spaces
- 6.5.14 Lighting
- 6.5.15 Signage



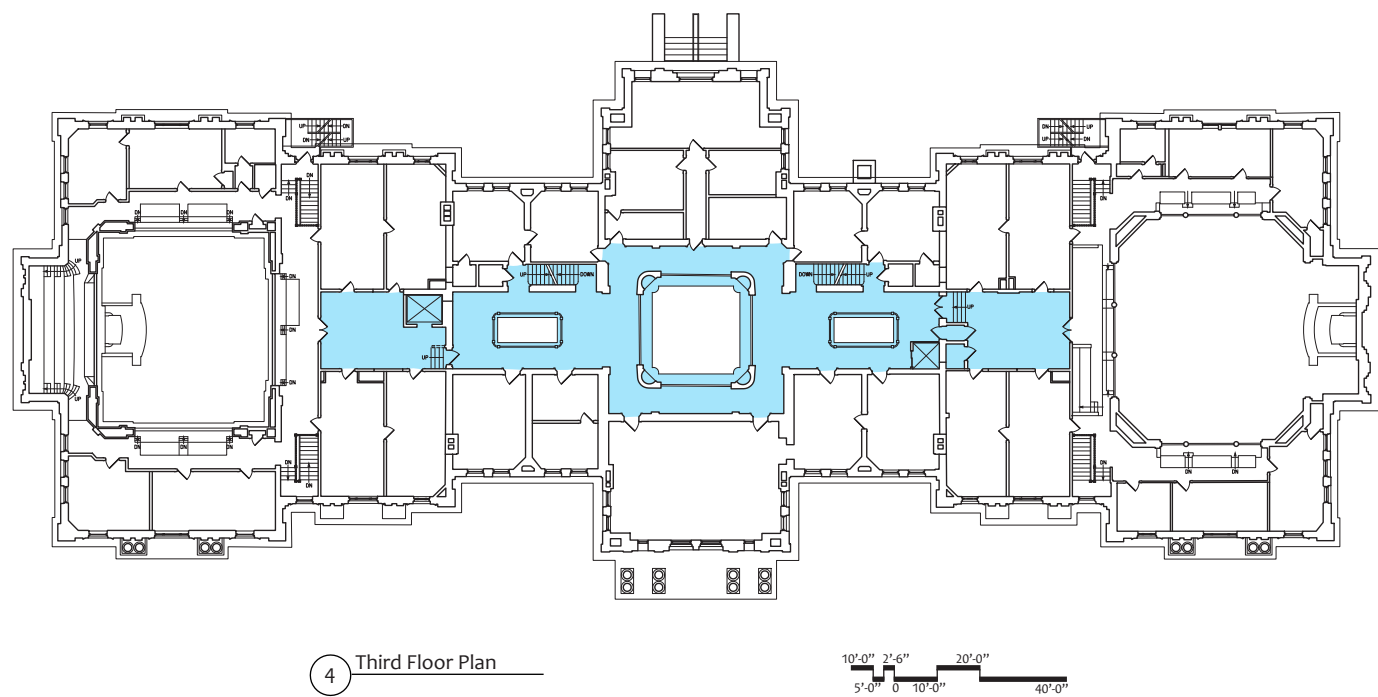


Figure 6.5.2.1: Third Floor Plan of Rotunda and Monumental Corridors [highlighted in light blue]

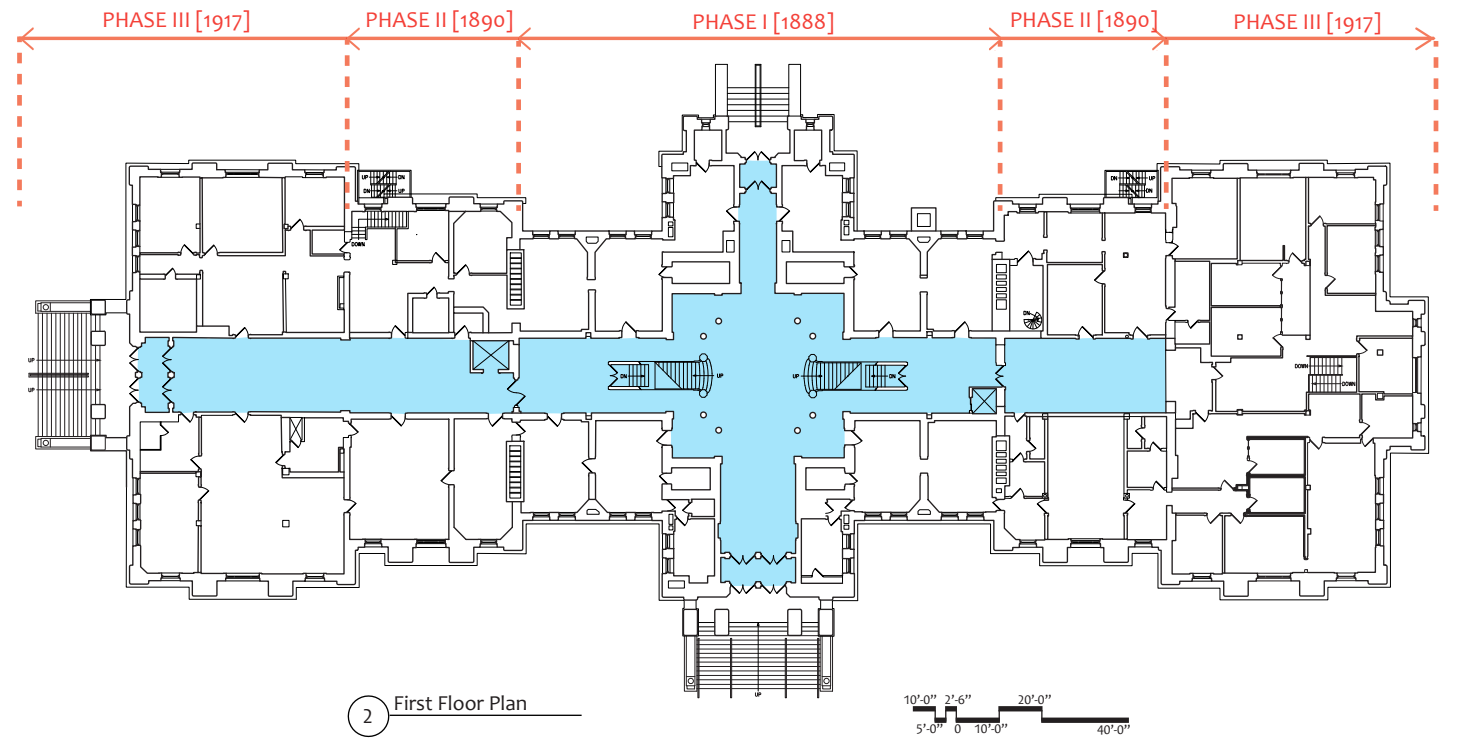


Figure 6.5.2.2: First Floor Plan of Rotunda and Monumental Corridors [highlighted in light blue]

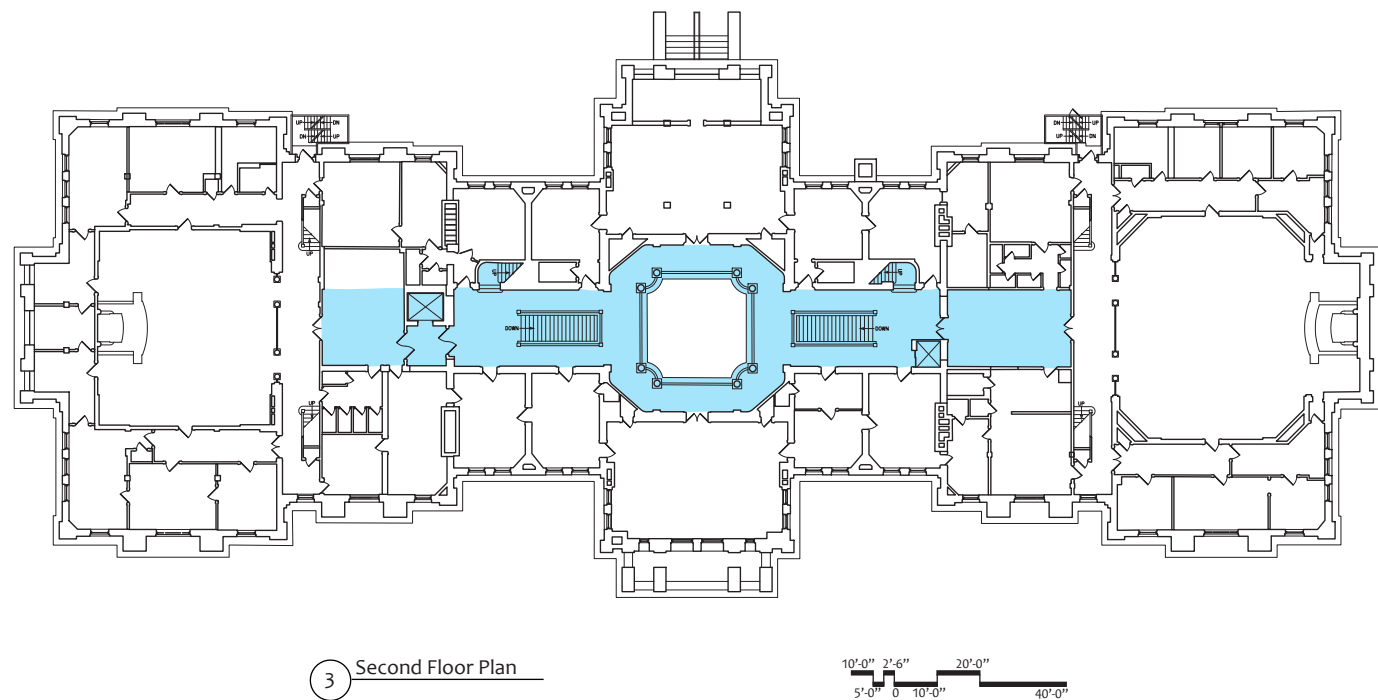


Figure 6.5.2.3: Second Floor Plan of Rotunda and Monumental Corridors [highlighted in light blue]

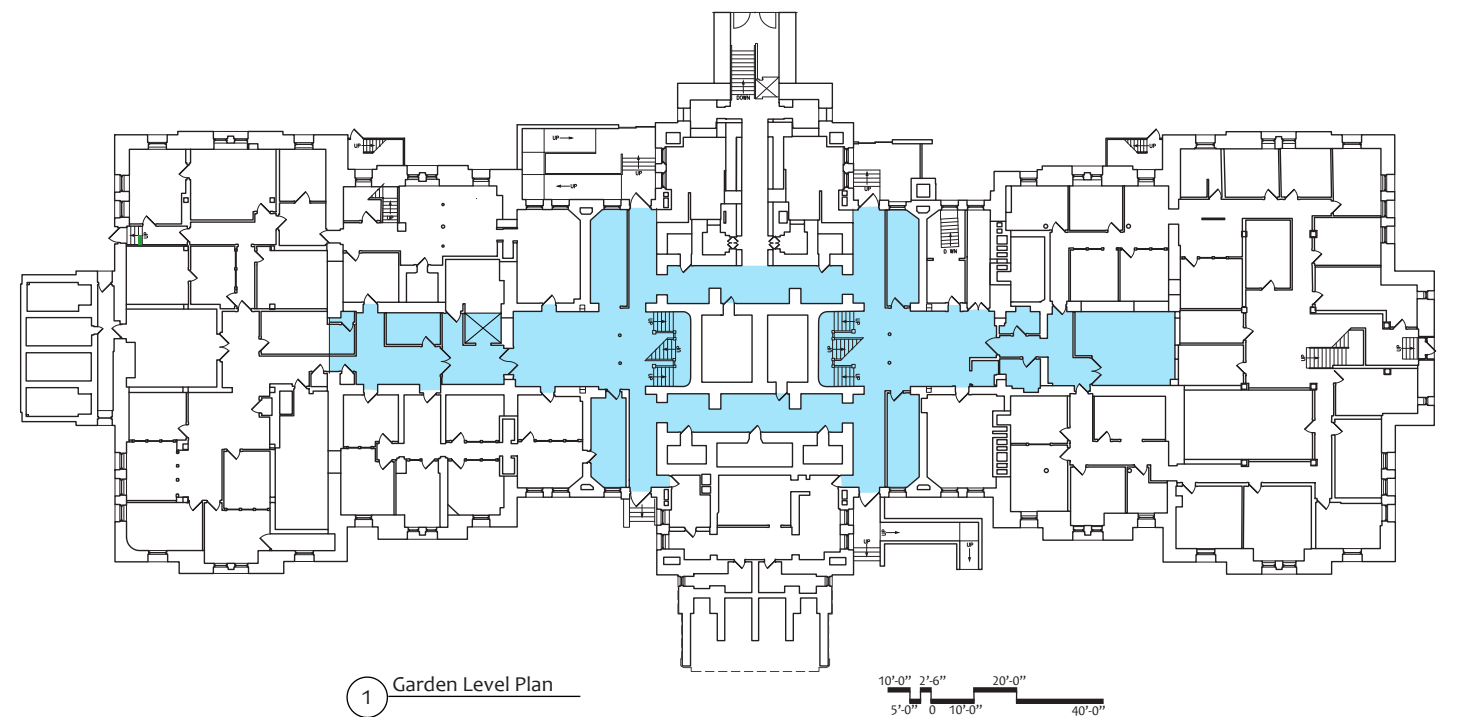


Figure 6.5.2.4: Garden Level Plan of Rotunda and Monumental Corridors [highlighted in light blue]



6.5.2 SCOPE OF WORK: INTERIOR - ROTUNDA AND MONUMENTAL CORRIDORS



Figure 6.5.2.5: Interior View of Rotunda from the Second Floor, Looking South.

Existing Conditions

The Rotunda and Monumental Corridors, including the area at the bottom of the Monumental Stairs at the Garden Level, are generally in very good condition.

- The Corridor configuration has been altered by:
 - insertion of two elevators, a handicapped lift, and a closet
 - expansion of Second Floor Senate Lobby northward
 - insertion of cross-corridor partitions with doors
 - reduction in width of steps down to House and Senate Chambers Lobbies.
- Acoustic-tile panels are affixed to some wall and ceilings.
- Paint colors and stenciling are not in historic colors and patterns.
- Historic lighting is supplemented with late 20th c. fixtures, such as ‘egg crate fixtures’ and recessed downlights.
- In some locations, the ceiling is dropped below the historic level and ‘beam’ enclosures are added.
- Some historic transoms above doors are missing or replaced with mirrors. Some are not in original locations.
- Monumental stairs down to Garden Level are fully enclosed, rather than open to the east and west as original.
- Miscellaneous devices are visible:
 - radiators
 - fancoil units
 - door release buttons
 - built-in bench with grills below in First Floor East Corridor
 - wall supply grills
 - fire extinguisher cabinets
 - hose cabinets
 - drinking fountain(s)
 - wall-mounted telephone(s)
 - standpipes

Note: The term historic refers to components that date to or pre-date the *Period of Significance* of the Capitol. The term non-historic refers to components that post-date the *Period of Significance* of the Capitol.

Proposed Treatment

Laylights

- Clean/repair Rotunda laylight/lantern.
- Provide new laylights in third-floor ceiling above each of the Monumental Stairs in Main Corridor below new skylights in historic locations.

Ceilings

- Remove acoustic tile. Repair plaster as required.
- In Rooms B01, B02, B00.3 and B00.4, remove plaster from ceilings and structural arches. Provide stucco finish on structure.
- Repair or replace historic plaster ceilings as required on all floors except the Garden Level. Provide new plaster as required.
- Remove non-historic dropped ceilings, cornices, and ‘beams’ in Senate and House Lobbies.
- Remove all Garden Level ceilings and cornices.
- Provide new plaster ceiling and cornices in historic profiles to match elevation of historic ceilings as required, floors first through third.
- Provide new Garden Level plaster ceilings and cornices to match historic, in all areas except B45, B45B, B85N, and B85S.
- Remove non-historic decorative beams. Repair plaster to remain as required.
- Repair historic cornice and decorative beam enclosures.
- Paint with historic colors, stenciling and patterns/effects identified in the Paint Exposures Program on first through third floors and per design on the Garden Level.

Walls

- Remove acoustic tile.
- Repair plaster as required including at partitions and elements to be removed that are currently attached to walls.
- In B01, B02, B00.3, and B00.4, remove all partitions and plaster finishes to expose brick structure. Stucco walls.
- Paint with historic colors, stenciling and patterns/effects identified in the Paint Exposures Program on First through Third Floors and per design on the Garden Level.
- Repair all historic decorative wood elements to remain including door and window surrounds, wainscoting, base and chair rails. Clean. Re-seal.
- Repair historic 3D elements to remain.
- Remove elevator shafts, handicapped lift walls, and Garden Level partitions.
- Remove wall in Second Floor Senate Lobby between 1888/1890 interface and Senate Chamber east wall.
- At First Floor, remove non-historic partial enclosures and doors at Monumental Stairs down to Garden Level. Restore historic opening.
- Remove and turn over to Owner mantel at the north wall of the Third Floor House Lobby. Restore plaster and wood elements to match existing adjacent elements.
- Construct new corridor walls to restore historic configuration:
 - Restore north wall in historic location in Second Floor Senate Lobby to match south wall plaster, wainscoting, cornice, base, etc.
 - Restore partial partition walls at 1888/1890 interface.
- Remove and salvage bronze grills for possible re-use.
- On the Garden Level, provide new wood base and chair rail similar to, but simpler than, historic wood profiles in rooms where no historic base and chair rail are present. Finish to match historic wood elements.



6.5.2 SCOPE OF WORK: INTERIOR - ROTUNDA AND MONUMENTAL CORRIDORS (CONTINUED)

<p>Columns</p> <ul style="list-style-type: none">• Repair columns and capitals as required.• Paint with historic colors and patterns/ effects identified in the Paint Exposures Program. <p>Floors</p> <ul style="list-style-type: none">• Repair cracks in marble tiles, affix loose tiles, provide new to match existing at miscellaneous removals such as columns to be removed at Garden Level, clean and re-finish.• Remove carpet.• Repair substrate as required.• Provide marble tile to match existing in pattern and material throughout on all floor areas except historic treads and risers, S204, H204, S304, H304 and on the Garden Level.• Provide new, high-quality custom carpet with field and border patterns in B20, B10, B40, B50, B00.3, B01, B00.4, and B02.• Provide granite flooring in B17, B12, B42, and B47 with thermal finish, checkerboard design, and border.• Provide custom carpet runners on historic treads and risers. <p>Interior Doors</p> <ul style="list-style-type: none">• Refer to Exterior Doors Section 6.4.5 for proposed treatment of exterior vestibule doors.• Refer to Interior Doors Section 6.5.11 for detailed treatment of interior doors. <p>Balusters</p> <ul style="list-style-type: none">• Limited repair and refinishing to match existing balusters, railings, and base. Clean. Re-seal. <p>Stairs</p> <ul style="list-style-type: none">• Remove non-historic portions of steps down to House and Senate Chambers Lobbies on Third Floor.• Limited repair and re-finishing of railings, balusters, treads, risers, and stringers to match existing. Clean. Re-seal.• Provide custom carpet runner on treads and risers on Monumental Stairs from Garden Level up to Attic.• Provide new steps full width of corridors at east and west 1888-90 interface down to House and Senate Chambers Lobbies. Finish to be marble pattern to match corridors. Provide cheek walls and ornamental columns north and south of stair. <p>Windows</p> <ul style="list-style-type: none">• Refer to Window Section 6.4.4 for detailed treatment of windows. <p>Lighting</p> <ul style="list-style-type: none">• Remove all non-historic fixtures such as recessed downlights and laylight ‘egg crates’.• Remove, refurbish, relamp, reinstall historic lighting fixtures.• Provide new fixtures to match historic fixtures in areas not adequately served by existing historic lighting, except B00.3, B00.1, B00.2, B00.4, B01 and B02.• Provide contemporary lighting in B00.3, B00.1, B00.2, B00.4, B01 and B02.• For additional information concerning lighting, refer to Lighting Section 6.5.14 of this report. <p>Building Systems</p> <ul style="list-style-type: none">• Remove miscellaneous items, such as:<ul style="list-style-type: none">◦ fan coil units, radiators, and all associated equipment, and wall and ceiling grilles.◦ door release buttons and all associated equipment.	<ul style="list-style-type: none">◦ telephones, ledges and privacy screens etc.◦ elevators, lifts and all associated equipment.◦ hose cabinets, fire extinguisher cabinets, and standpipe cabinets.◦ drinking fountains. <ul style="list-style-type: none">• Provide new bronze grilles for smoke evacuation in former Third Floor ceiling openings for 1917 skylights in 1890 section.• Reuse historic bronze grilles and provide new bronze wall grilles to match historic grilles to serve all-air system and to serve fan coil units below floors of First Floor exterior vestibules.• Provide custom wood and bronze grille enclosures for new radiation units and piping and Garden Level exterior vestibules.• Refer to Section 6.6 of this report for detailed treatments of building systems. <p>Signage</p> <ul style="list-style-type: none">• Remove all signage. Clean and salvage as required.• Remove painted signage on glass in doors; provide new as required. <p>Artwork/Wall-Hung Elements</p> <ul style="list-style-type: none">• Remove, clean glass and frames and turn over to Owner all artwork and framed artifacts. Re-install in new locations.• Remove, clean, store and re-install stone and bronze plaques and wood framed notice board.• Remove, clean, store and re-install bison and associated platforms/equipment.• Remove, store, and re-install wall-hung elements in new locations. <p>Furniture and Fit-out</p> <ul style="list-style-type: none">• Remove and store security and information desks for possible re-use or salvage. Provide new casework for new security and information desks.• Remove, clean, store and re-install all loose furniture such as shelving, chairs, benches, easels, sofas, coat racks, flags, floor mats and display racks, stands and cases.• Remove built-in bench with grilles below in First Floor east Monumental Corridor.
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Figure 6.5.2.6: Third Floor Senate Lobby



Figure 6.5.2.7: West Rotunda Stairs Descending to the Garden Level





Figure 6.5.2.8: View of Information and Security Booth on the First Floor of the Rotunda.



Figure 6.5.2.9: East Stairway between the Second and Third Floors

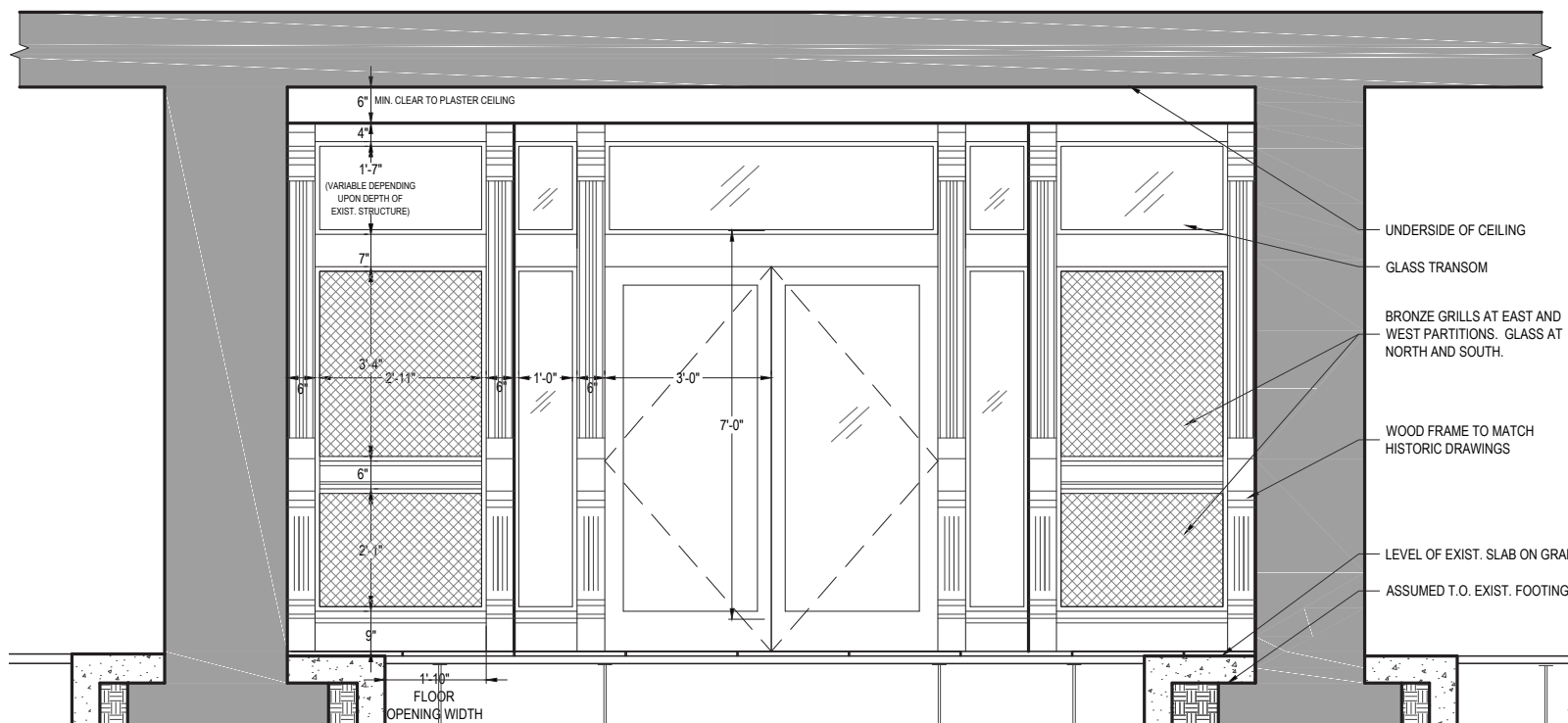


Figure 6.5.2.10: Sectional Interior Elevation of New Garden Level East and West Partitions in Vestibules at Bottom of Monumental Stairs (North and South Partitions in Vestibules Similar)



Figure 6.5.2.11: View of Laylight at the Third Floor Monumental Corridor, West.

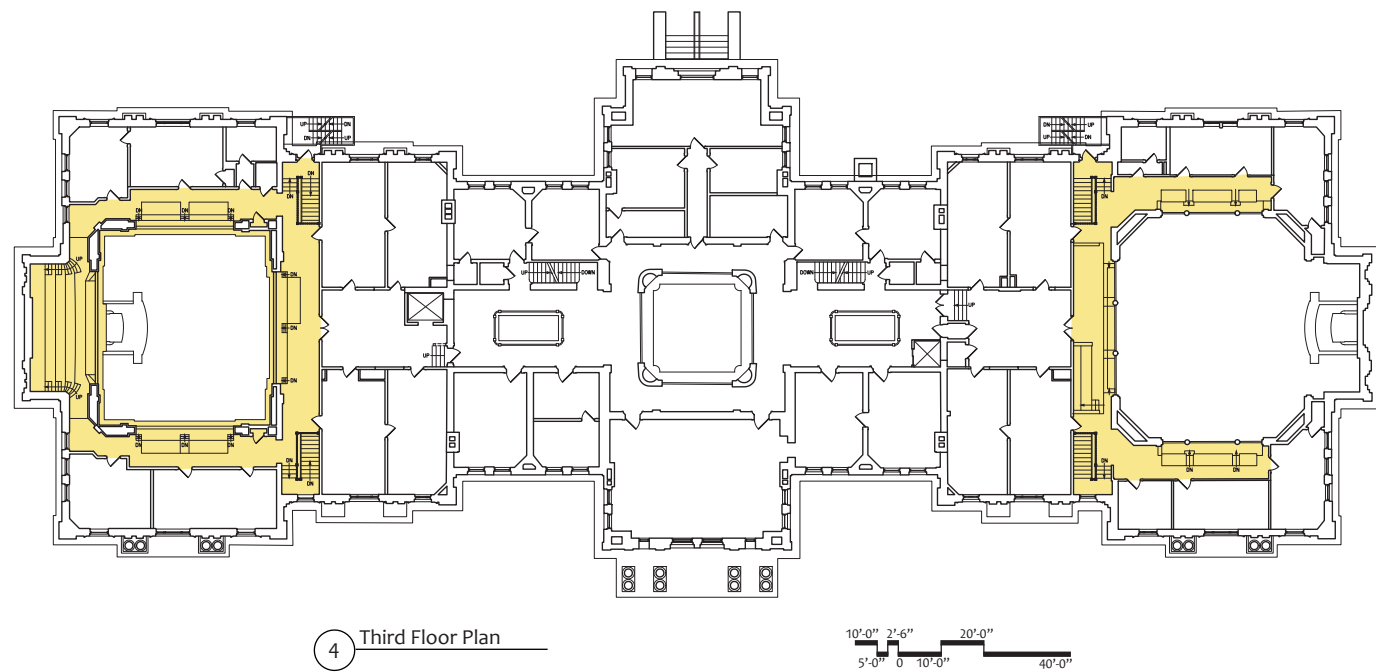


Figure 6.5.3.1: Third Floor Plan of Senate (left) and House Chambers [highlighted in yellow]

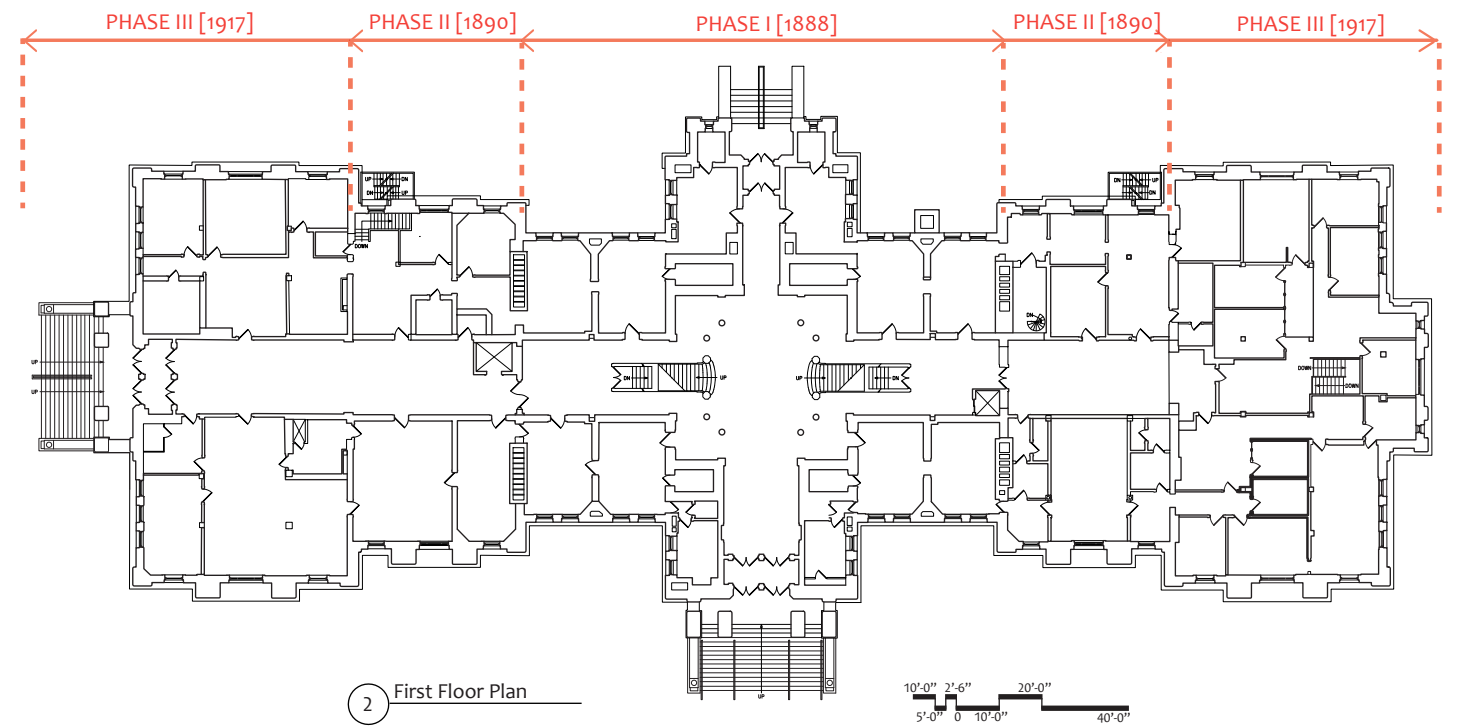


Figure 6.5.3.2: First Floor Plan

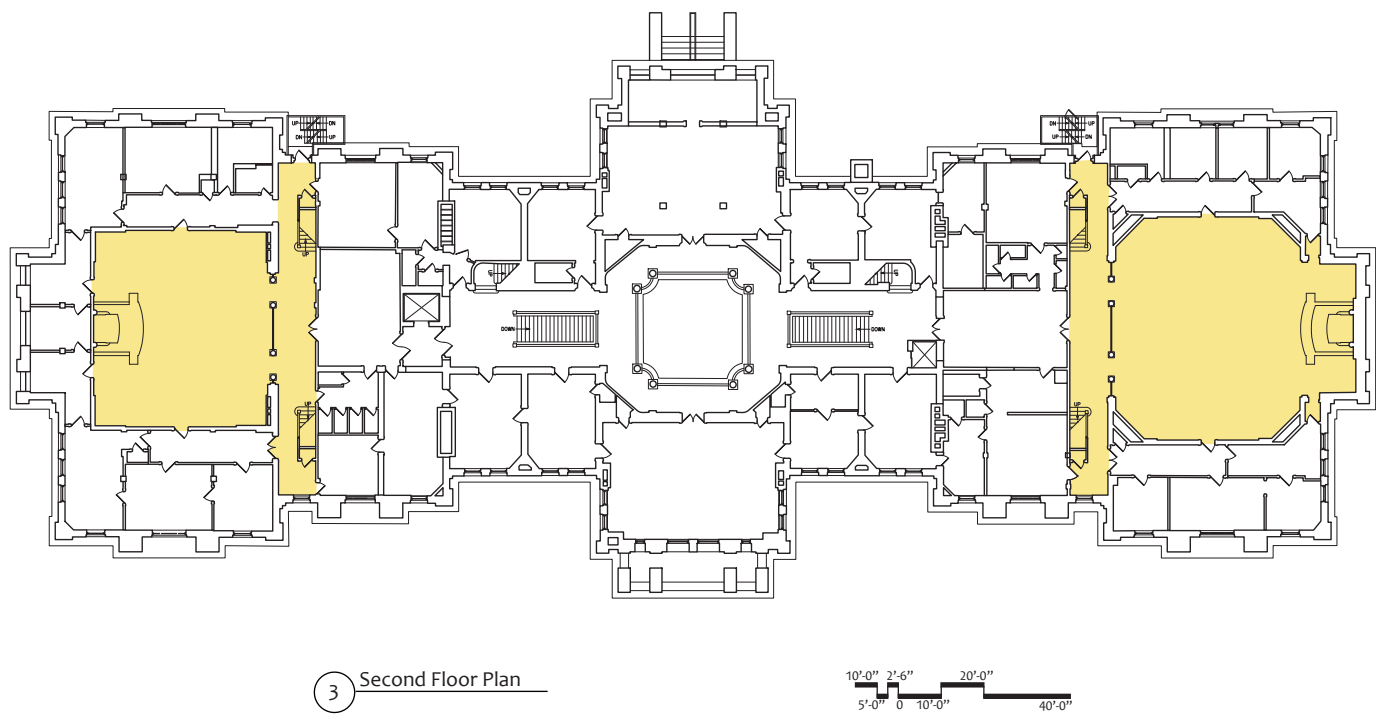


Figure 6.5.3.3: Second Floor Plan of Senate (left) and House Chambers [highlighted in yellow]

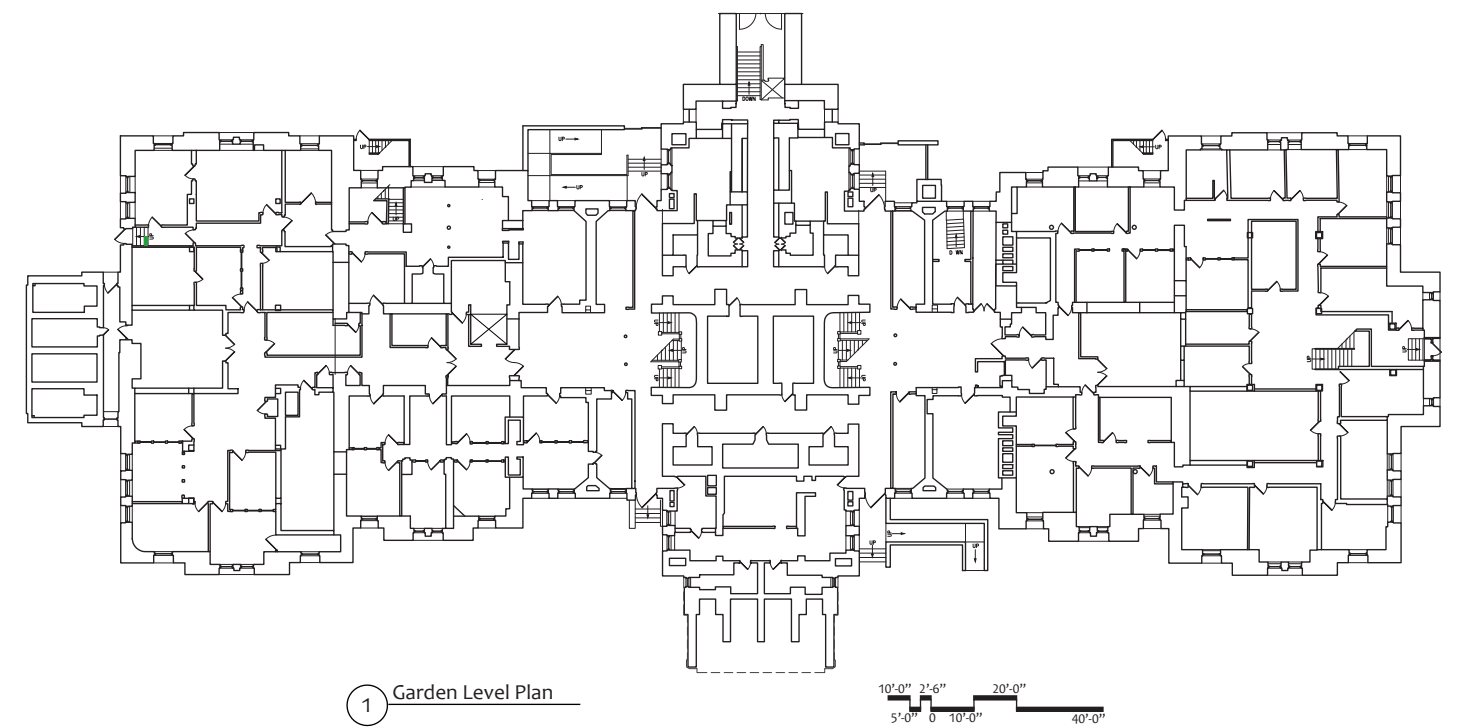


Figure 6.5.3.4: Garden Level Plan



6.5.3 SCOPE OF WORK: INTERIOR - SENATE AND HOUSE CHAMBERS



Figure 6.5.3.5: View of House Chamber Looking Southeast



Figure 6.5.3.6: View of Senate Chamber Looking Northwest

Existing Conditions

The House and Senate Chambers are generally in excellent condition.

- The Senate Chamber’s general configuration is basically unaltered from its historic configuration.
- The historic configuration of the House Chamber is altered due to the closing of the east windows and the relocation of the dias against the east wall. This was done to accommodate more members and make it easier to see those at the east end of the room.
- Acoustic tile panels are affixed to some wall and ceiling areas.
- Paint colors, stenciling and carpet are not consistent with the *Period of Significance*.
- Glass panels are added to the railings of the balconies and at the column line, dividing the House and Senate Chambers proper from the hall at the rear.
- Non-historic recessed light fixtures are installed in the ceilings
- The Chambers have little acoustic isolation from public areas.

Note: The term historic refers to components that date to or pre-date the *Period of Significance* of the Capitol. The term non-historic refers to components that post-date the *Period of Significance* of the Capitol.

Proposed Treatment

Ceiling

- Clean/repair laylights [Figure 6.5.3.5 and Figure 6.5.3.6].
- Remove acoustic tile; repair plaster ceilings.
- Repair all historic 3D plaster and decorative wood elements, such as cornices, brackets, and beam enclosures.
- Paint with historic colors, stenciling and patterns/effects identified in the Paint Exposures Program.

Walls

- Remove acoustic tile. Repair plaster as required, including at all elements to be removed currently attached to walls.
- Repair 3D plaster and decorative wood elements, such as pilaster capitals.
- Repair/refinish to match existing in limited areas all decorative wood elements including door and window surrounds, wainscoting, base and chair rails. Clean. Re-seal.
- Paint with historic colors, stenciling and patterns/effects identified in the Paint Exposures Program.

Columns

- Repair columns and capitals as required.
- Paint with historic colors, stenciling and patterns/effects identified in the Paint Exposures Program.

Floors

- Remove carpet and floor duct system. Provide new communication/power system to members’ desks.
- Repair substrate; provide high quality, wall-to-wall, custom carpet with border and pattern [Figure 6.5.3.9].

Interior Doors

- Refer to Interior Doors Section 6.5.11 for detailed treatments of doors.

Balusters

- Limited repair and re-finishing to match existing balusters, railings and base. Clean. Re-seal. [Figure 6.5.3.7 and Figure 6.5.3.8]
- Remove glass guardrails at balconies and dividers at rear of House and Senate Chambers. Provide new glass guardrails at code-compliant height balconies to supplement existing historic rails to remain.

Stairs

- South Stairs: Limited repair and re-finishing of balusters, railings, treads, risers, and stringers to match existing. Clean. Re-seal. [Figure 6.5.3.12]
- North Stairs: Disassemble stairs, wainscot, and closet enclosure below. Reassemble/rehabilitate with code compliant riser and tread dimensions. Provide new wood elements



6.5.3 SCOPE OF WORK: INTERIOR - SENATE AND HOUSE CHAMBERS (CONTINUED)

to supplement and match existing as required. Finish to match existing historic elements. Clean. Re-seal.

- Provide custom carpet runners on treads and risers.

Windows

- Refer to Windows Section 6.4.4 for detailed treatment of windows.

Balcony Seating

- Remove non-historic seating. Provide new fixed seating in period design with leather upholstery [Figure 6.5.3.11].
- Remove existing carpet. Repair substrate. Provide custom carpet.

Lighting

- Remove all non-historic fixtures such as recessed downlights.
- Remove, refurbish, and reinstall historic lighting fixtures.
- Provide new fixtures to match historic fixtures in areas not adequately served by existing historic lighting.
- For additional information concerning lighting, refer to Lighting Section 6.5.14 of this report.

Building Systems

- Remove miscellaneous items such as fire extinguishers, cameras, speakers, and wall and ceiling grilles.
- Remove all radiators, fancoil units, and associated enclosures.
- Remove bronze grilles. Clean and re-finish. Re-install.
- Provide new bronze wall grilles to match existing historic grilles.
- Provide custom wood and bronze grille enclosures for new radiation units and piping.
- Refer to Section 6.6 of this report for detailed treatment of building systems.

Signage

- Remove all signage. Clean and salvage as required. Re-install in new locations.
- Provide painted signage on glass doors.

Artwork/Wall-Hung Elements

- Remove all artwork and wall-hung elements except four murals in House Chamber and four murals in Senate Chamber. Clean glass and frames. Re-hang as required in new locations.
- Protect in-situ murals and provide environmental monitoring [Figure 6.5.3.10].
- lo



Figure 6.5.3.7: Senate Chamber South Stair at the third floor



Figure 6.5.3.8: House Chamber North Stair at the third floor. North Stairs to be disassembled and re-assembled with code compliant treads and risers.





Figure 6.5.3.9: Senate Chamber West Balcony



Figure 6.5.3.10: Senate Chamber North Stair at the Second Floor



Figure 6.5.3.11: House Chamber West Balcony. Note existing glass panels above balcony rail along column line.



Figure 6.5.3.12: House Chamber South Stair at the Second Floor. Note existing glass panel above waist-high partition between hall and Chamber proper.

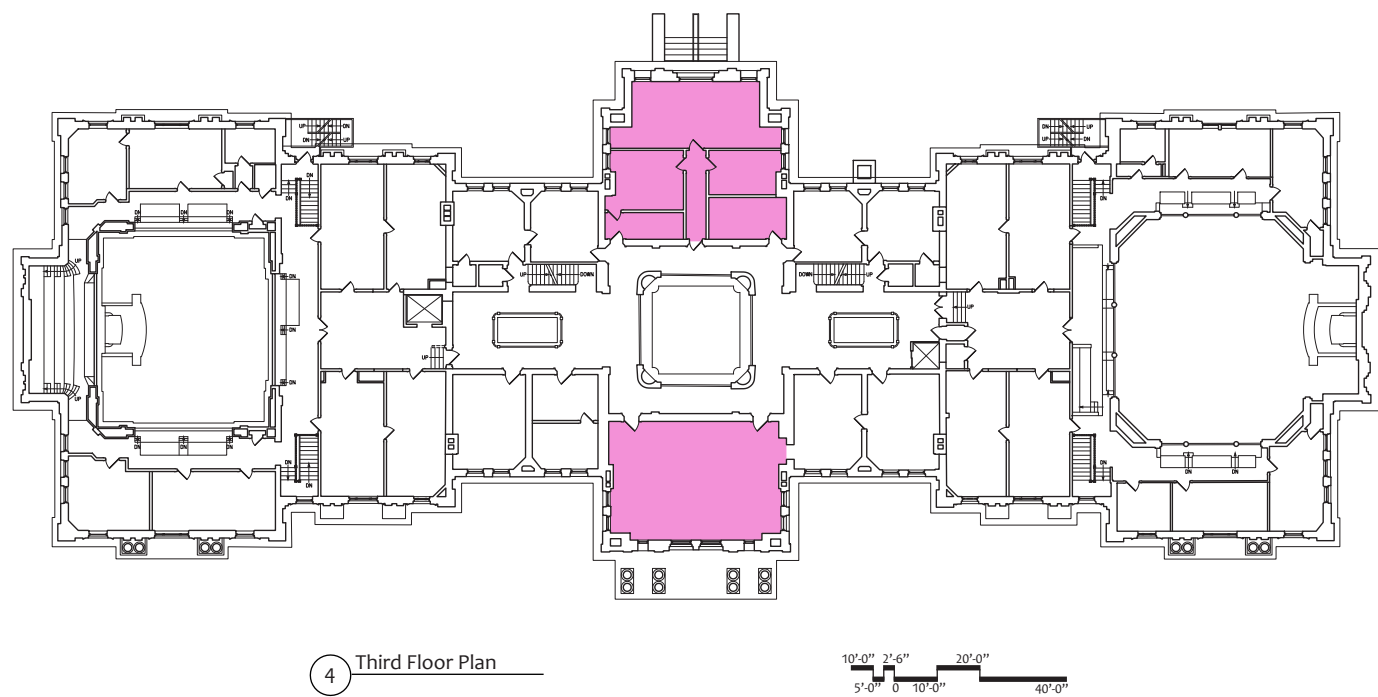


Figure 6.5.4.1: Third Floor Plan of Committee Rooms [highlighted in pink]

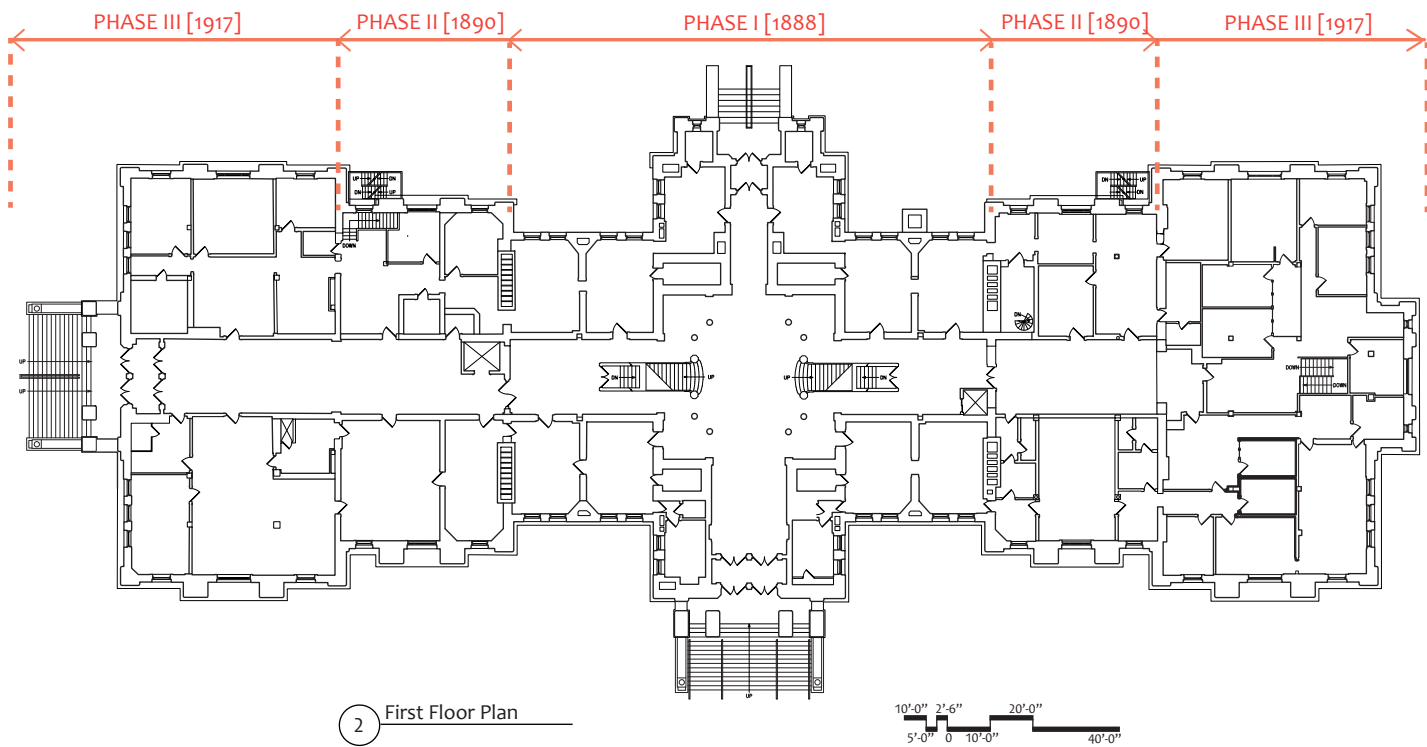


Figure 6.5.4.2: First Floor Plan

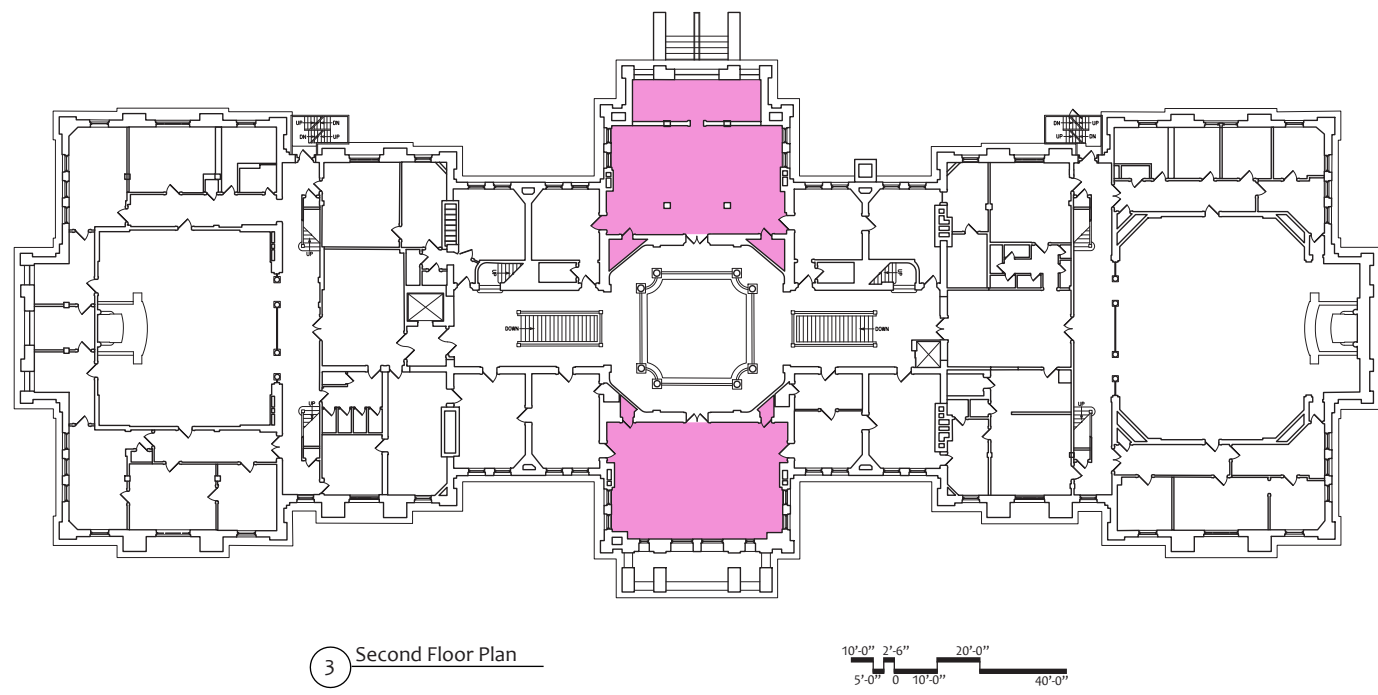


Figure 6.5.4.3: Second Floor Plan of Committee Rooms [highlighted in pink]

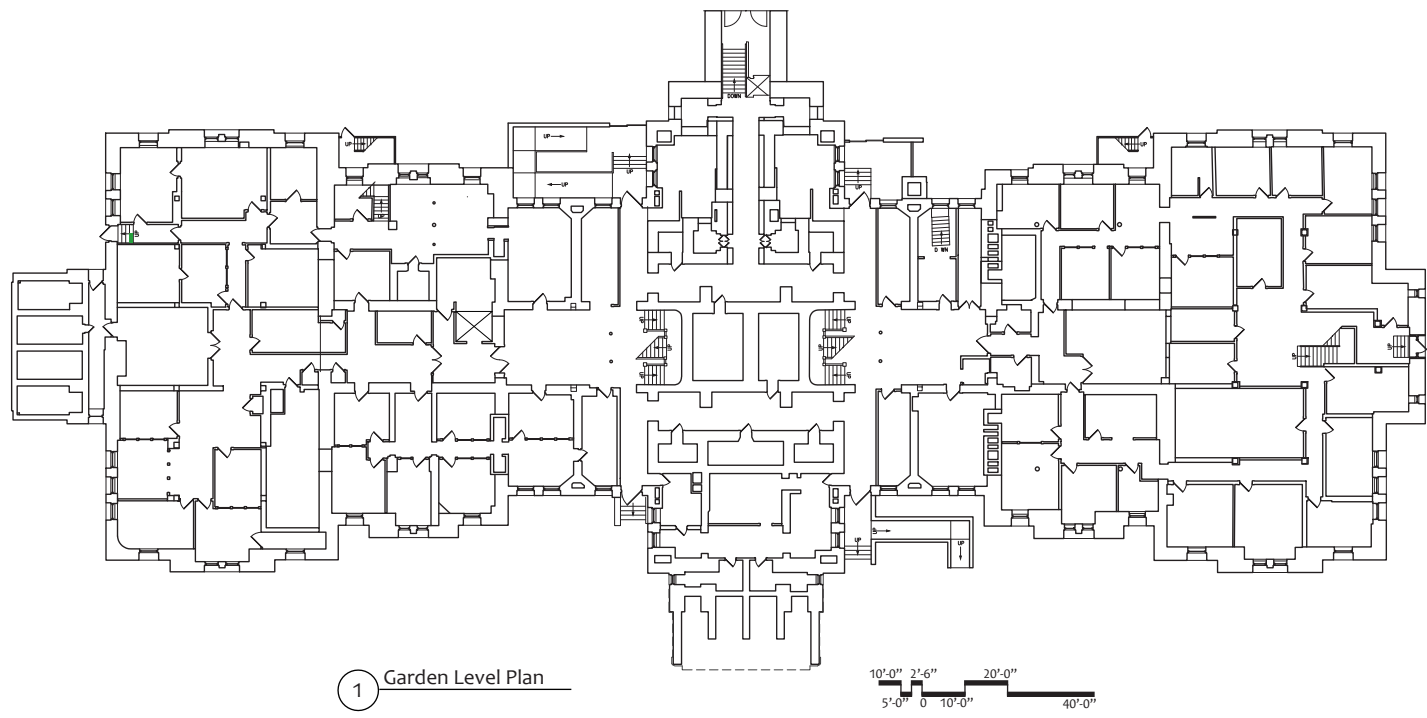


Figure 6.5.4.4: Garden Level Plan



6.5.4 SCOPE OF WORK: INTERIOR - COMMITTEE ROOMS



Figure 6.5.4.5: Committee Room 302

Existing Conditions

The existing Committee Rooms are generally in very good condition. However, there is a need to increase their number. Legislative Services Offices (LSO) on the Third Floor, north of the Rotunda, is in good condition, but needs considerable modification to transform it into a Committee Room [Figure 6.5.4.7].

Ceilings

- In most areas, ceilings and /or drapery pockets are dropped below window heads. Unfortunately, these:
 - minimize the incoming light
 - restrict the view out
 - reduce the sense of spaciousness and dignity of the rooms
 - adversely affect the exterior appearance of the building.
- Acoustic tile panels are located on ceilings



Figure 6.5.4.6: Committee Room 204

Note: The term historic refers to components that date to or pre-date the *Period of Significance* of the Capitol. The term non-historic refers to components that post-date the *Period of Significance* of the Capitol.

Proposed Treatment

Ceilings

- The Design Team recommends raising the ceiling and laylight with associated decorative beams/framing above window head in Third Floor Committee Room (Room 303) south of Rotunda. Owner direction is required.
- Clean laylight. Repair as required.
- Provide new decorative beams at laylight.
- Remove non-historic ceilings, cornices, acoustic tile, soffits, and drapery pockets. (Some historic ceilings may remain above.)
- Repair existing historic plaster ceilings to remain.
- Provide new acoustic plaster ceilings and cornices similar to, but simpler than historic cornices.
- Repair as required, clean and re-seal existing natural-finish wood beam enclosure Room 205.

Walls

- Remove acoustic tile affixed to walls.
- Repair plaster on historic masonry walls.
- Remove all partitions within new Third Floor Committee Room 303, north of Rotunda and partition at north of Room 205, second floor, north of Rotunda.
- Salvage for possible re-use non-historic wood wainscot in Room 205 on north partition to be removed.
- Restore/repair/re-finish/patch to match existing historic wood: door and window surrounds, wainscot, chair rail and base in limited areas and non-historic wood columns. Clean and re-seal.
- Provide new wood base and chair rail similar to, but simpler than, historic wood profiles in rooms where no historic base and chair rail are present. Finish to match historic wood elements.
- Refer to Window Section 6.4.4 for detailed treatment of windows.
- Provide access panels where required behind ‘concealed’ panels of walls from corner to corner of an area between ceiling and chair rail/wainscot or base and chair rail/wainscot [Similar to Figure 6.5.6.8].

Floors

- Remove existing finishes such as carpet.
- Repair substrate.
- Provide high-quality, wall-to-wall, custom carpeting with border and pattern throughout.

Interior Doors

- Refer to Interior Doors section in Section 6.5.11 for detailed treatment of interior doors.

Windows

- Refer to Window Section 6.4.4 for detailed treatment of windows.



6.5.4 SCOPE OF WORK: INTERIOR - COMMITTEE ROOMS (CONTINUED)

Lighting

- Refurbish, re-lamp and reinstall historic lighting fixture in Room 303, south of Rotunda.
- Remove all non-historic fixtures.
- Provide traditional lighting and/or new fixtures to match historic fixtures.
- For additional information concerning lighting, refer to Lighting section in Section 6.5.14 of this report.

Building Systems

- Remove all radiators, fan coil units and associated enclosures, and supply and return grilles.
- Provide custom wood and bronze grille enclosures for new radiation units and piping.
- Provide new bronze wall grilles to match existing historic grilles.
- Refer to Section 6.6 of this report for detailed treatment of building systems.

Signage

- Remove all signage.
- Provide new painted signage on glass lites in doors.

Artwork/Wall-Hung Elements

- With the exception of mural in Room 303, remove, store and re-hang in new locations all artwork/wall-hung/wall-mounted elements.
- Protect large painting on north wall in Room 303 during construction and provide enviromental monitoring.



Figure 6.5.4.7: Legislative Services Office, Room 308



Figure 6.5.4.8: Legislative Services Office, Room 213



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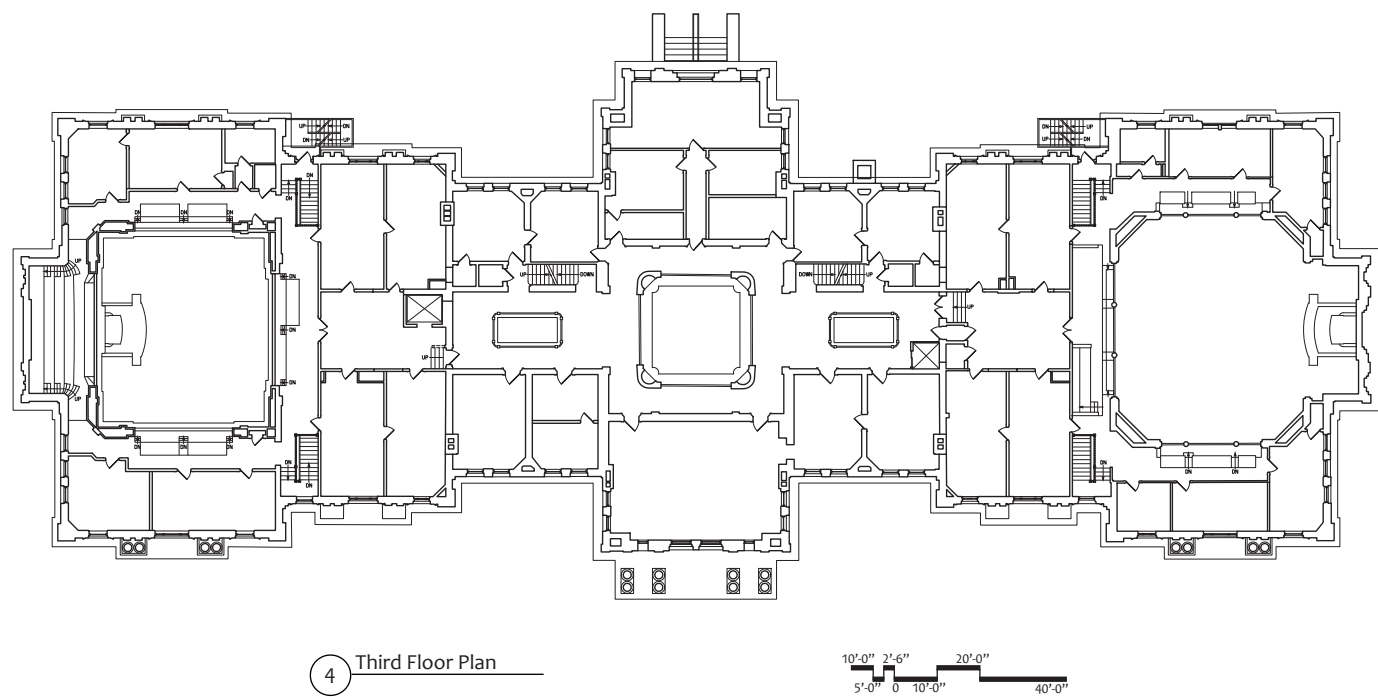


Figure 6.5.5.1: Third Floor Plan

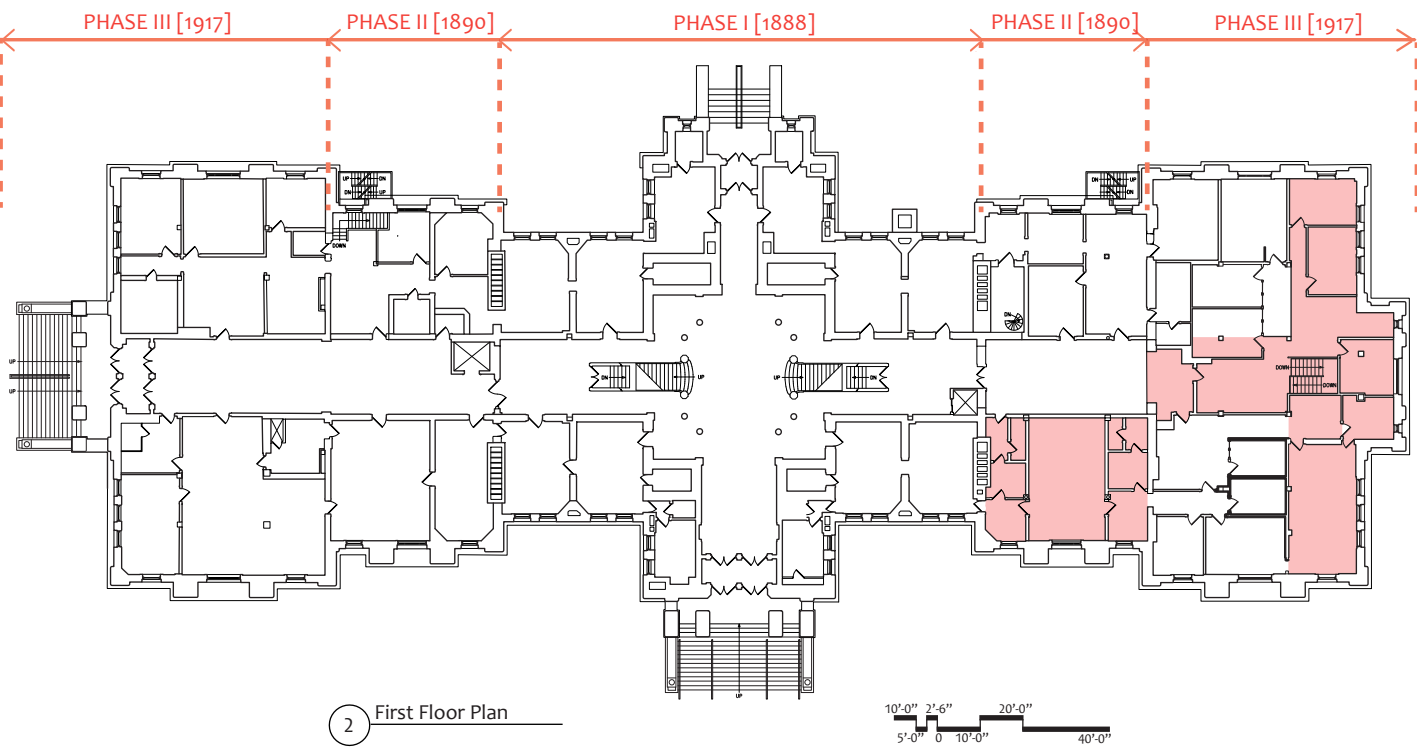


Figure 6.5.5.2: First Floor Plan [Governor's Suite and Ceremonial/Signing Room highlighted in orange]

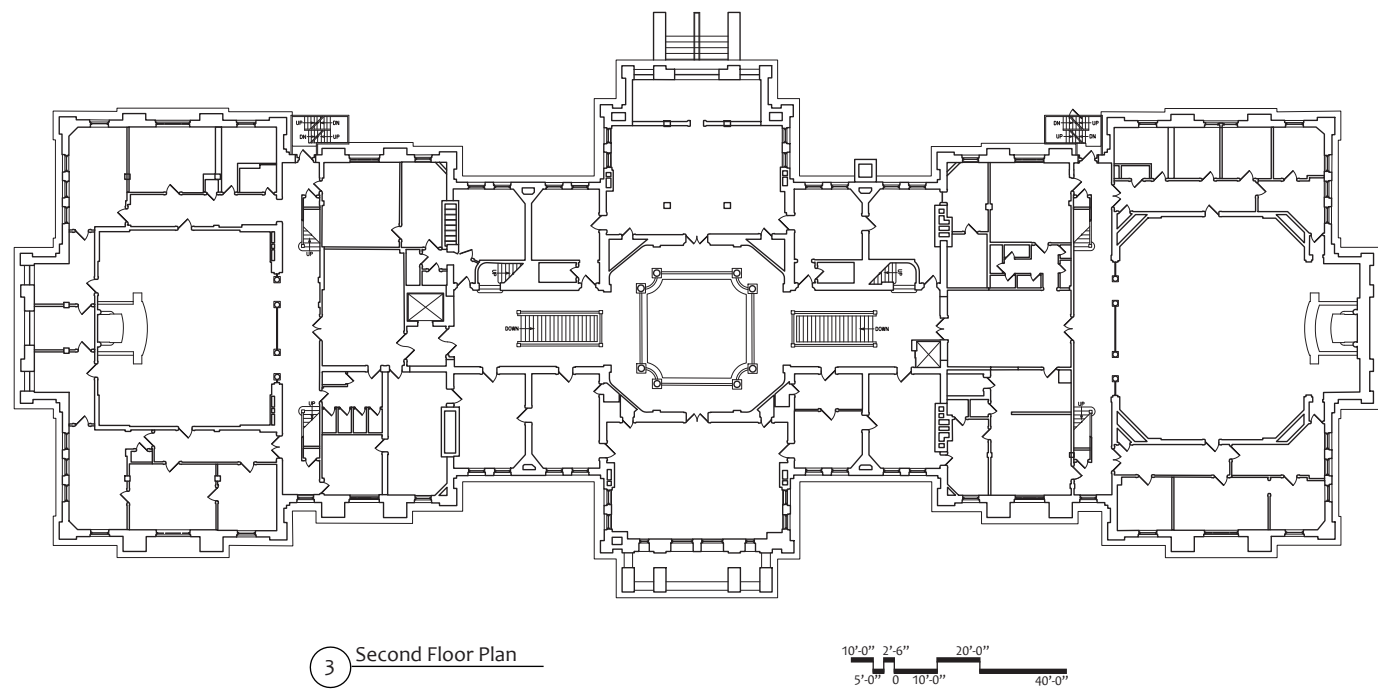


Figure 6.5.5.3: Second Floor Plan

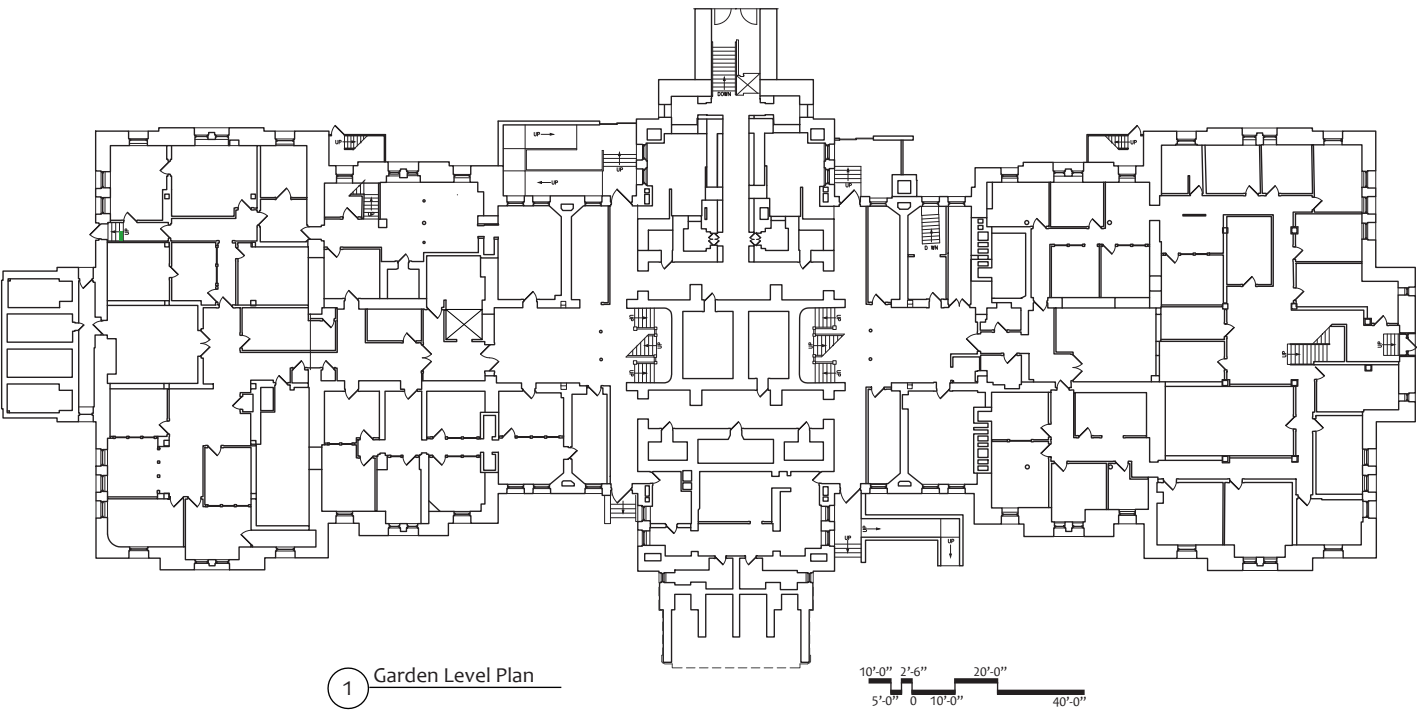


Figure 6.5.5.4: Garden Level Plan



6.5.5 SCOPE OF WORK: INTERIOR - GOVERNOR’S SUITE AND CEREMONIAL/’SIGNING’ ROOM



Figure 6.5.5.5: Governor’s Ceremonial/’Signing’ Room 101

Existing Conditions

The existing Governor’s Suite and Ceremonial/’Signing’ Room are generally in very good condition.

Ceilings

- In most areas, ceilings are dropped below window heads. Unfortunately, this:
 - minimizes the incoming light
 - restricts views out
 - reduces a sense of spaciousness and the dignity of the room
 - adversely affects the exterior appearance of the building.
- Acoustic tile panels are located on ceilings



Figure 6.5.5.6: Governor’s Ceremonial/’Signing’ Room 101

Note: The term historic refers to components that date to or pre-date the *Period of Significance* of the Capitol. The term non-historic refers to components that post-date the *Period of Significance* of the Capitol.

Proposed Treatment

Ceilings

- Remove decorative beams.
- Remove non-historic ceilings, cornices, soffits, cornice boxes and drapery pockets. (Some historic ceilings may exist above.)
- Repair existing historic plaster ceilings to remain.
- Provide new plaster ceilings, soffits and plaster cornices similar to, but simpler than, historic cornices.

Walls

- Repair plaster on historic masonry walls.
- Remove all partitions within office suites except bearing walls to remain.
- Remove non-historic wood wainscot, picture rail and chair rail.
- Repair/refinish to match historic wood in limited areas historic wood and window surrounds. Clean and re-seal.
- Provide masonry chases to accommodate new ductwork and piping.
- New plaster, glass and wood-framed partitions from slab to slab between offices and corridors except where bearing walls are to remain.
- Provide new wood base, wainscot and chair rail in all rooms except Room 172.
- Provide access panels where required behind ‘concealed’ panels of walls from corner to corner of an area between ceiling and chair rail or base and chair rail, similar to [Figure 6.5.6.8](#).
- Provide ceramic tile wainscot in Room 172.

Floors

- Remove existing finishes such as carpet.
- Repair substrate.
- Provide new high-quality, wall-to-wall custom carpet with border and pattern in Wyoming Theme throughout, except in Room 172.
- Provide tile in Room 172.

Interior Doors

- Refer to Interior Doors Section 6.5.11 for detailed treatment of interior doors.

Windows

- Refer to Window Section 6.4.4 for detailed treatment of windows.

Stairs

- Remove stairs in Rooms 123/123.3 and provide slab and structure to restore floor as required.

Lighting

- Refurbish, re-lamp and reinstall historic lighting fixtures.
- Remove all non-historic fixtures.



6.5.5 SCOPE OF WORK: INTERIOR - GOVERNOR’S SUITE AND CEREMONIAL/‘SIGNING’ ROOM (CONTINUED)

- Provide contemporary lighting and/or new fixtures to match existing historic fixtures.
- For additional information on lighting, refer to Lighting Section 6.5.14 of this report.

Building Systems

- Remove all radiators, fan coil units and associated enclosures.
- Provide bronze wall grilles to match historic grilles.
- Provide new wood enclosures with bronze grilles for new radiation and piping.
- Refer to Section 6.6 of this report for detailed treatment of building systems.

Signage

- Remove all signage.
- Provide new painted signage on glass lites in doors.

Artwork/Wall-Hung Elements

- Remove all artwork/wall-hung/wall-mounted elements. Store for possible re-use.

Furniture and Fit-out

- Remove all furniture and loose items and store for possible re-use.
- Remove all window treatments.



Figure 6.5.5.7: Room 134



Figure 6.5.5.8: Room 134



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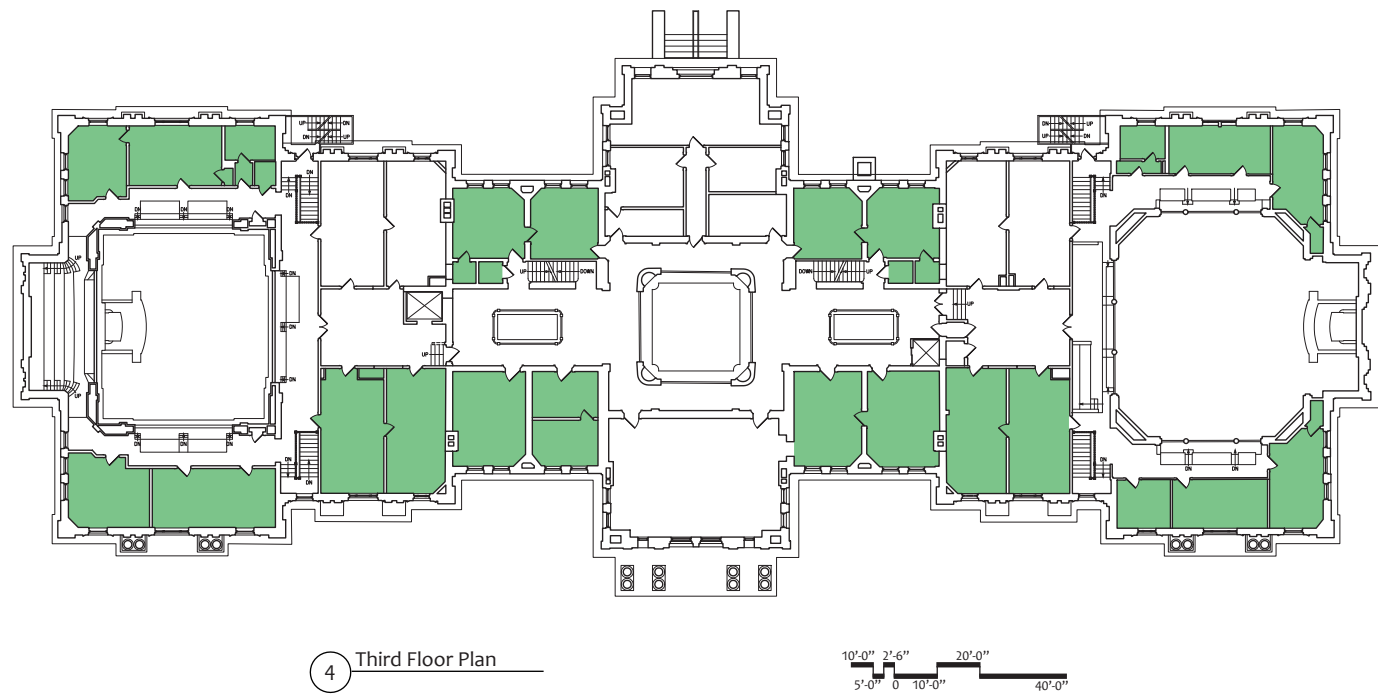


Figure 6.5.6.1: Third Floor Plan [Office Suites highlighted in green]

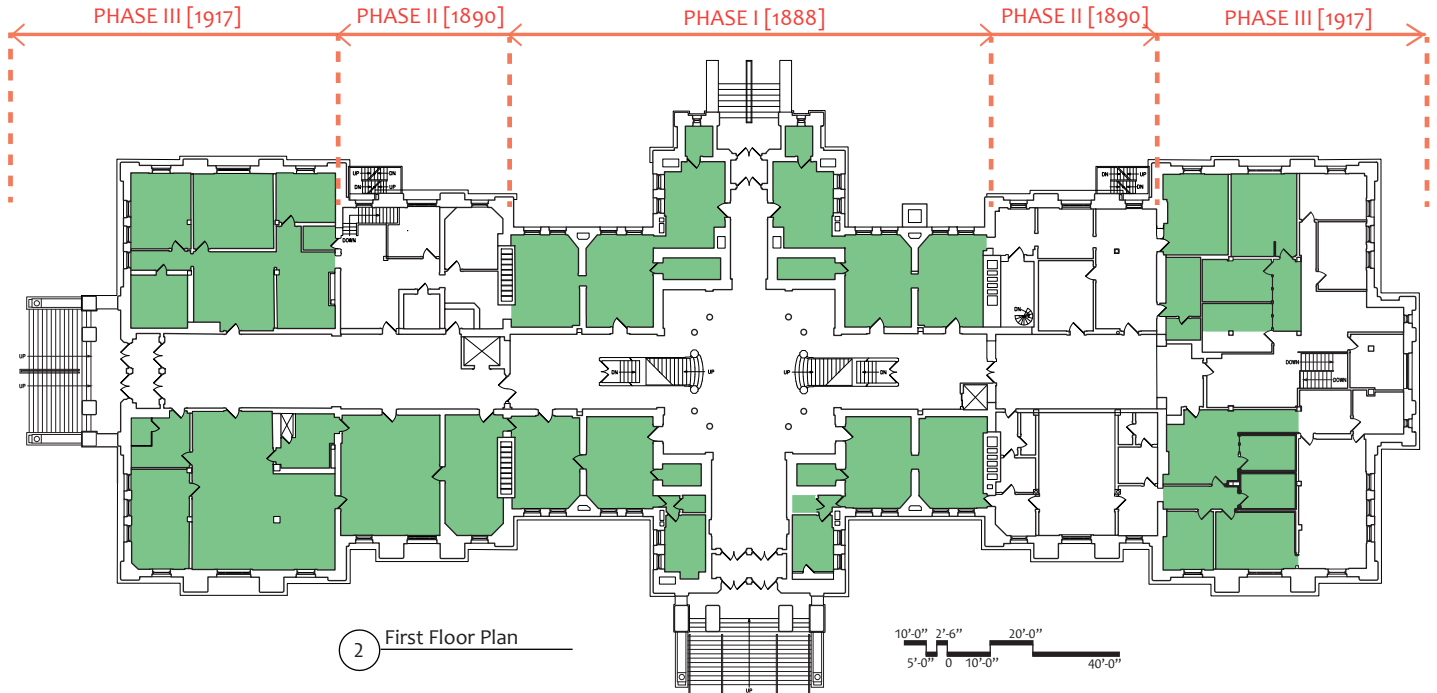


Figure 6.5.6.2: First Floor Plan [Office Suites highlighted in green]

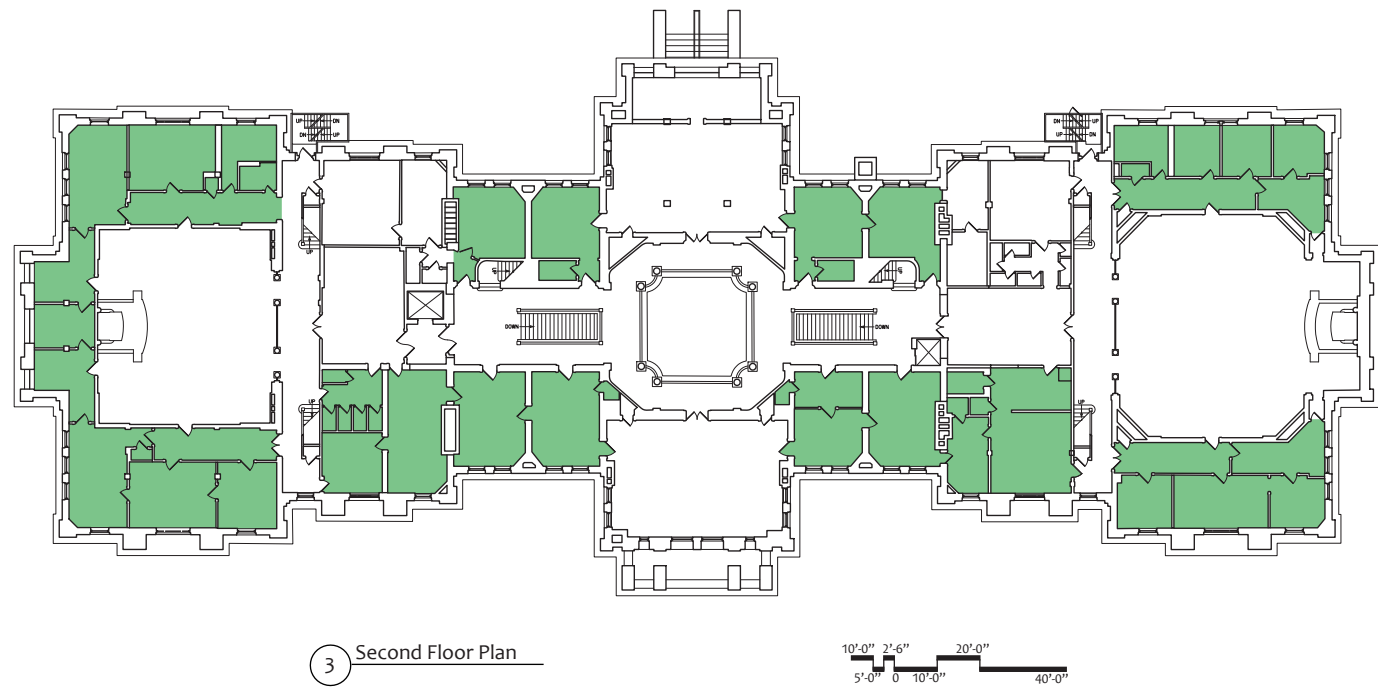


Figure 6.5.6.3: Second Floor Plan [Office Suites highlighted in green]

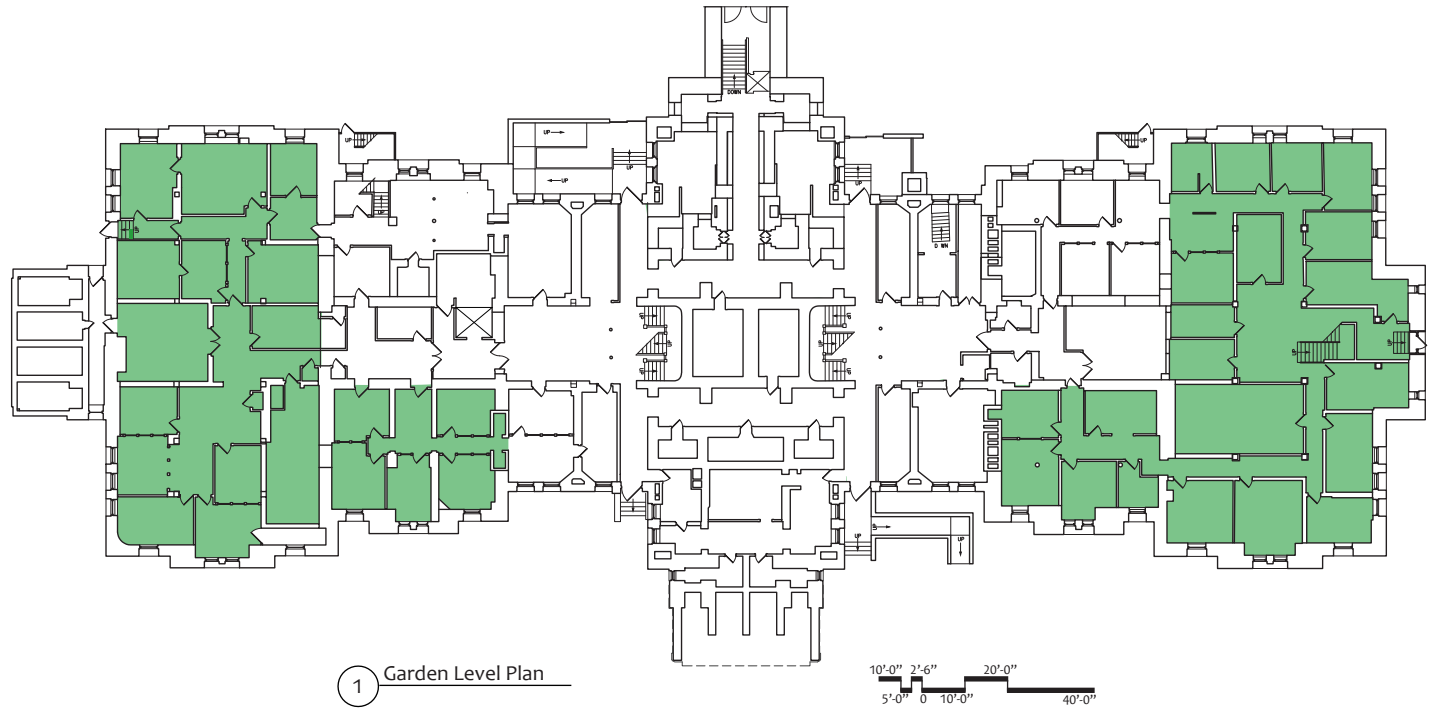


Figure 6.5.6.4: Garden Level Plan [Office Suites highlighted in green]



6.5.6 SCOPE OF WORK: INTERIOR - OFFICE SUITES



Figure 6.5.6.5: Room 102 in 1888 Section of the Capitol

Existing Conditions

The existing office areas are generally in good condition.

Overall Office Suite Planning

- Because the Office suites on the Garden Level and First Floor are disorganized in plan they:
 - use the available space inefficiently and
 - are difficult for a visitor to navigate.

Ceilings

- In most offices, the ceilings are dropped below window heads. This condition:
 - minimizes the incoming light
 - restricts views out
 - reduces a sense of spaciousness of the offices
 - adversely affects the exterior appearance of the building.
- Acoustic tile panels are located on ceilings.



Figure 6.5.6.6: Room 110 in 1917 Section of the Capitol. Note signage painted on glass lite.

Note: The term historic refers to components that date to or pre-date the *Period of Significance* of the Capitol. The term non-historic refers to components that post-date the *Period of Significance* of the Capitol.

Proposed Treatment

Ceilings

- Remove non-historic ceilings, cornices, cornice boxes and drapery pockets. (Some historic ceilings may be in place above.)
- Repair existing historic plaster ceilings to remain.
- Provide new plaster ceilings and cornices similar in profile, but simpler than, historic profiles.
- Provide soffits and chases as required to accommodate ductwork and piping.

Walls

- Repair plaster on historic masonry walls.
- Remove all partitions within office suites except bearing walls to remain.
- Remove non-historic wood and stone wainscot, picture rail and chair rail.
- Remove all ceramic tile at walls to remain.
- New plaster, glass and wood-trimmed partitions from slab to slab between offices and within-suite corridors, except where bearing walls are to remain [Figure 6.5.6.7].
- New plaster partitions between offices/kitchens/break areas and between kitchen/break areas and corridors from slab to slab except where bearing walls are to remain.
- Repair/restore/refinish decorative historic wood elements to match existing, such as door and window surrounds, base, chair rail, and fireplace surrounds. Clean and re-seal.
- Repair in limited areas and clean fireplaces and surrounds in their entirety. Re-seal wood elements.
- Provide new wood base and chair rail similar to, but simpler than historic wood profiles where no historic base and chair rail are present. Finish to match historic wood elements.
- Provide access panels where required behind ‘concealed’ panels of walls from corner to corner of an area between ceiling and chair rail or base and chair rail [Figure 6.5.6.8].
- In 1917 Sections, provide partitions between offices and within-suite corridors per Figure 6.5.6.7.

Floors

- Remove existing finishes such as tile and carpet.
- Repair substrate.
- Remove vault floor, 1917 West. Provide new concrete slab.
- Provide high-quality, wall-to-wall carpet with border and pattern throughout except in kitchens/break areas.
- Provide new VAT in kitchens/break areas.

Interior Doors

- Refer to Interior Doors section in Section 6.5.11 for detailed treatment of interior doors.
- Remove vault doors and frames for possible salvage.

Windows

- Refer to Window Section 6.4.4 for detailed treatment of windows.

Stairs

- Remove stairs in Rooms B30.2 and B86, B71.1 and B71.2. Provide slab and structure to restore floor as required.



6.5.6 SCOPE OF WORK: INTERIOR - OFFICE SUITES (CONTINUED)

Lighting

- Refurbish, relamp and reinstall historic lighting fixtures.
- Remove all non-historic fixtures.
- Provide traditional lighting in 1890 and 1917 Phases.
- Provide new fixtures to match historic fixtures where required in 1888 and 1890 sections.
- For additional information on lighting, refer to Lighting Section 6.5.14 of this report.

Building Systems

- Remove all radiators, fan coil units and associated enclosures and supply and return grilles.
- Remove lift in vault.
- Provide bronze wall grilles to match historic in 1888 section.
- Provide new natural-finish wood enclosures with wood grilles for radiation and associated piping.
- Refer to Section 6.6 of this report for detailed treatment of building systems.

Signage

- Remove all signage.
- Provide new painted signage on glass lites in doors.

Artwork/Wall-Hung Elements

- Remove all artwork/wall-hung/wall-mounted elements. Store for possible re-use.

Furniture and Fit-out

- Remove:
 - All furniture and loose items and store for possible re-use.
 - All window treatments.
 - Toilet partitions, vanities, mirrors, accessories, fire extinguishers, etc.
 - All built-in counters and cabinets.
- Provide three break spaces/kitchens with:
 - Sink
 - Refrigerator
 - Microwave
 - Countertops and cabinets



Figure 6.5.6.7: Corridor Elevation of Office Walls in Office Suites

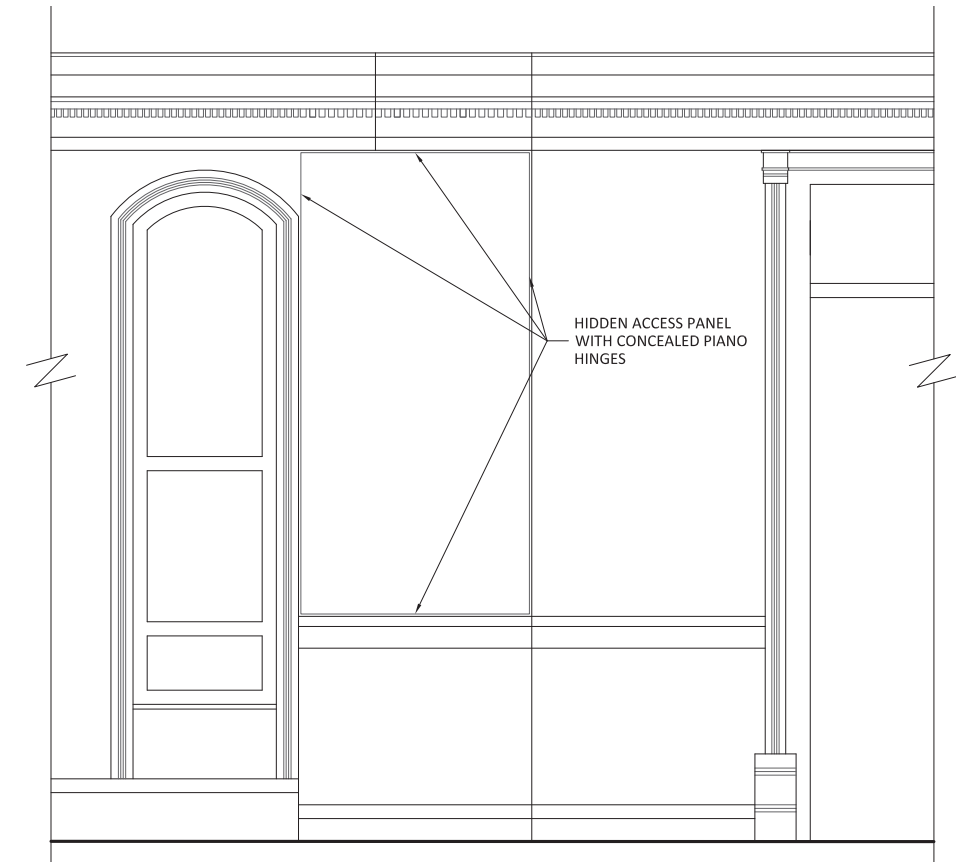


Figure 6.5.6.8: Hidden Access Panel



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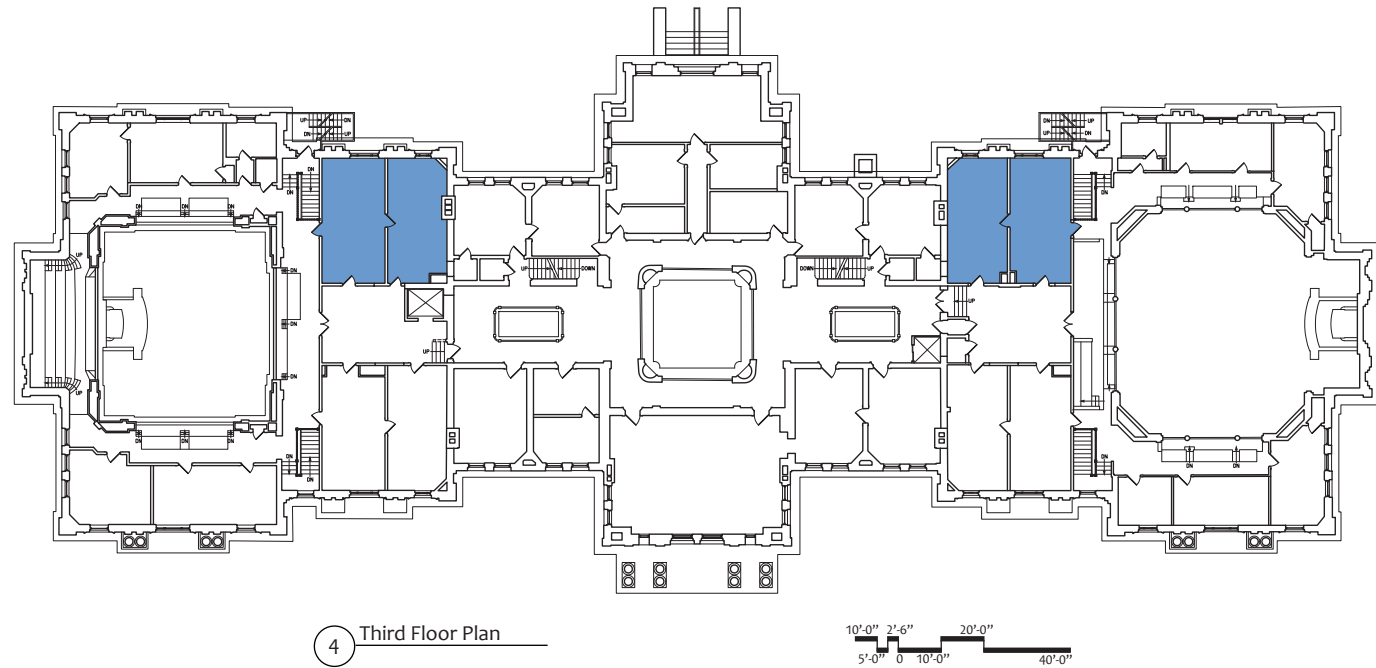


Figure 6.5.7.1: Third Floor Plan of Service Cores [highlighted in dark blue]

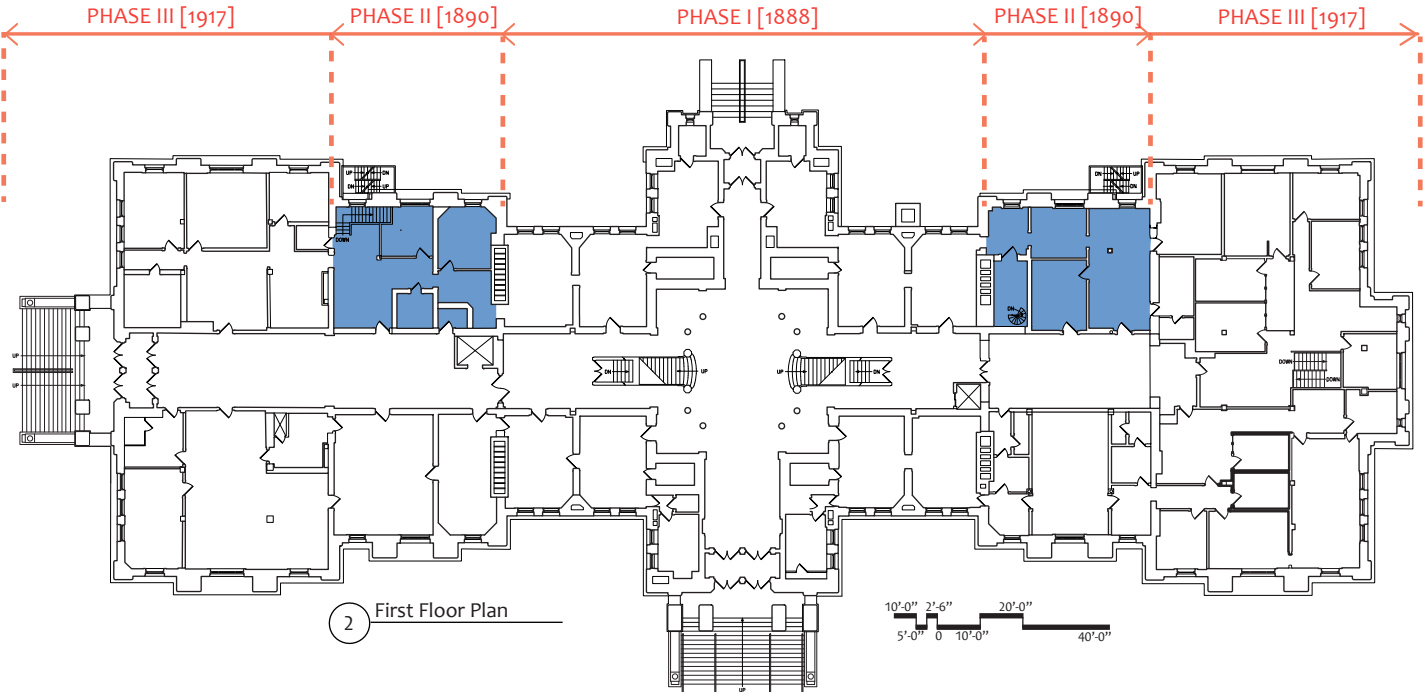


Figure 6.5.7.2: First Floor Plan of Service Cores [highlighted in dark blue]

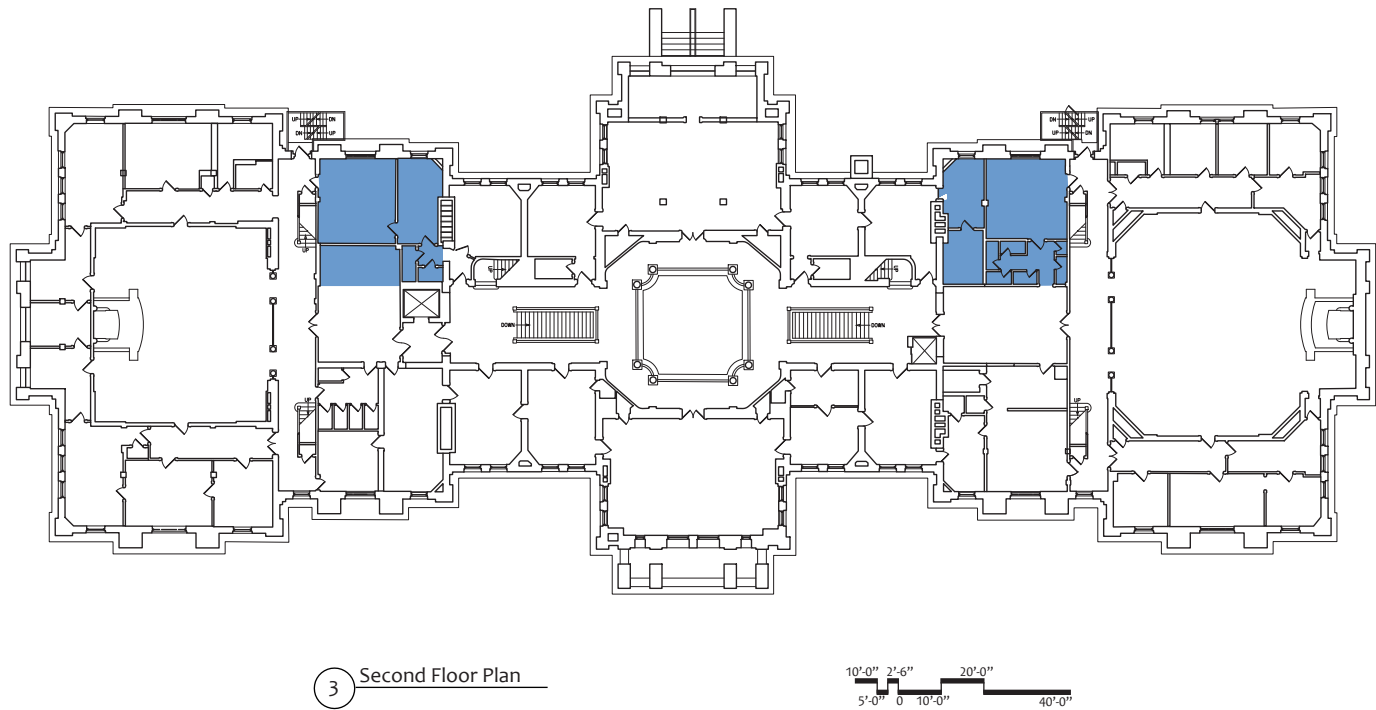


Figure 6.5.7.3: Second Floor Plan of Service Cores [highlighted in dark blue]

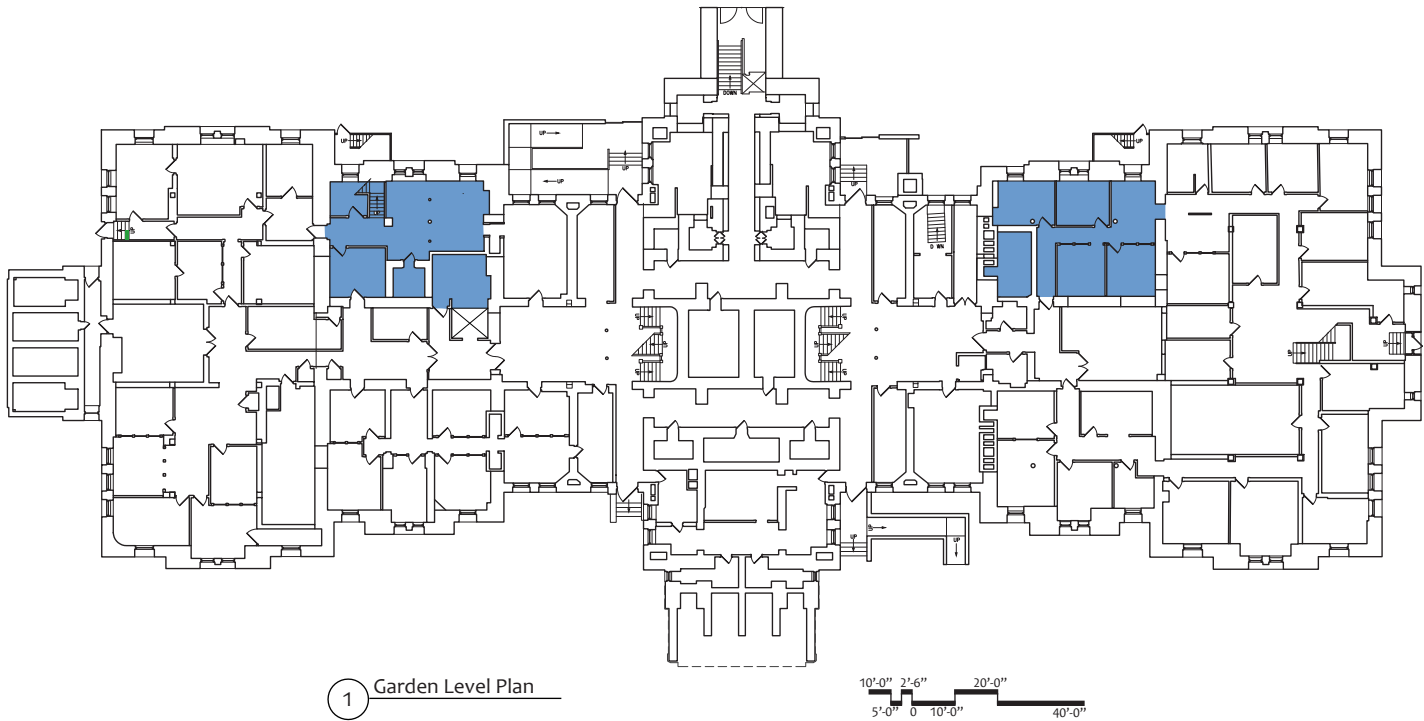


Figure 6.5.7.4: Garden Level Plan of Service Cores [highlighted in dark blue]



6.5.7 SCOPE OF WORK: INTERIOR - SERVICE CORES



Figure 6.5.7.5: Mail Room adjacent to elevator and the western Monumental Corridor on the first floor.

Existing Conditions

Services are distributed inefficiently throughout the building.

- Restrooms are inadequate in number and difficult for visitors to find. There are too few ADA-compliant restrooms.
- Two elevators and a handicapped lift block the Monumental Corridors.
- There are no electrical rooms in the building. Electrical panels are located throughout.

Proposed Treatment

Ceilings

- Remove all ceilings, soffits and cornices.
- New plaster ceilings and soffits with ‘concealed’ panelized areas for access as required.
- New cornices in elevator lobbies similar in profile to historic cornices in Monumental Corridors.

Walls

- Remove all partitions and furred walls within space. Salvage wood wainscot, chair rail and base for possible re-use.
- Provide new plaster partitions and furring.
- Provide ‘concealed’ panelized areas for access between chair rail and ceiling and partition corners as required [Similar to Figure 6.5.6.8].
- Provide new wood chair rail and base similar to, but simpler than historic wood profiles. Finish to match historic wood elements.
- Provide tile full height of restroom walls.

Floors

- Provide new concrete floor slabs.
- Provide marble in First Floor Elevator/Restroom Lobbies, Rooms 125 and 152, in material and pattern to match floors in Rotunda and Monumental Corridors.
- Provide carpet in Garden Level, Second and Third Floor Elevator/Restroom Lobbies, Rooms B27, B54, S225, H225, S325, and H325, to match carpet in adjacent Corridor/Lobbies.
- Provide carpet in S209 and S210 to match carpet in S204.
- Provide carpet in H209 and H210 to match carpet in H204.
- Provide marble tile with field and border patterns in restrooms.
- Provide sheet vinyl in electric / telecommunications / data rooms.

Stairs

- Remove existing stairs in Rooms 122.2/B83/B96 and B31/B97/114.2.
- Provide two new stairs down from Second Floor to Garden Level and connect to stairs in House and Senate Chambers, Rooms B32, B57, 127 and 154.
- Provide high-quality carpet on treads, risers, landings and floors of Rooms 127 and 154.
- Provide polished concrete at treads, risers, landings and floors of Rooms B32 and B57.
- Provide glass guard rails and bronze handrails from the Second Floor to the Garden Level, Rooms B32, B57, 127 and 154.

Interior Doors:

- Refer to Interior Doors Section 6.5.11 for detailed treatment of interior doors.

Windows

- Refer to Window Section 6.4.4 for detailed treatment of windows.

Elevator Cabs

- Provide custom bronze and wood walls and ceilings.
- Provide marble tile flooring to match Monumental Corridors.
- Provide bronze doors.



Figure 6.5.7.6: Elevator obstructing a historic door in the eastern Monumental Corridor on the first floor.

Note: The term historic refers to components that date to or pre-date the *Period of Significance* of the Capitol. The term non-historic refers to components that post-date the *Period of Significance* of the Capitol.



6.5.7 SCOPE OF WORK: INTERIOR - SERVICE CORES (CONTINUED)

Lighting

- Remove all non-historic fixtures.
- Provide traditional lighting in elevator lobbies.
- Provide contemporary lighting in restrooms.
- Provide utility lighting in elec/tele/data rooms.
- Refer to Lighting Section 6.5.14 for detailed treatment of lighting.

Building Systems

- Remove all radiators, fan coil units and associated enclosures.
- Provide custom wood grille enclosures for new radiation units and piping.
- Provide non-bronze supply and return grilles.
- Provide new stainless steel toilet partitions and accessories.
- Provide new elevator.
- Refer to Section 6.6 of this report for detailed treatment of building systems.

Signage

- Remove all signage.

Artwork/Wall-Hung Elements

- Remove, store and re-hang in new locations all artwork/wall-hung/wall-mounted elements.
- Remove all mailboxes.

Furniture and Fit-out

- Remove all furniture and loose items and store for possible re-use.
- Remove all built-in items such as counters, cabinets, telephone shelves and shelving.
- Remove all window treatments



Figure 6.5.7.7: Vault Door of Room 122.2.



Figure 6.5.7.8: Spiral Stair within the Vault of Room 122.2, Viewed from the Garden Level.





Figure 6.5.7.9: Telephone Booth Space in Room H7 on the Second Floor.



Figure 6.5.7.10: Under-utilized Space of Room H18 on the Third Floor.



Figure 6.5.7.11: Luncheon and Kitchenette in Room H7 on the Second Floor.



Figure 6.5.7.12: Cubicle Arrangement in Room B31.

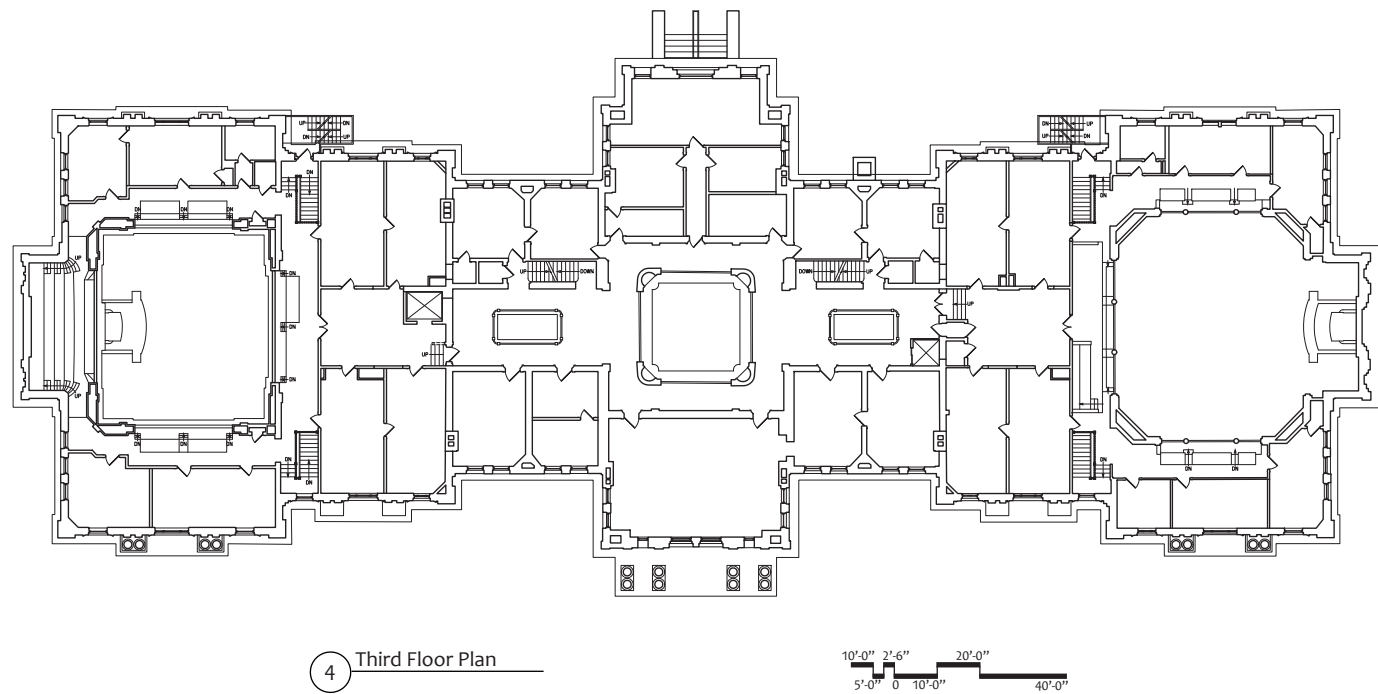


Figure 6.5.8.1: Third Floor Plan

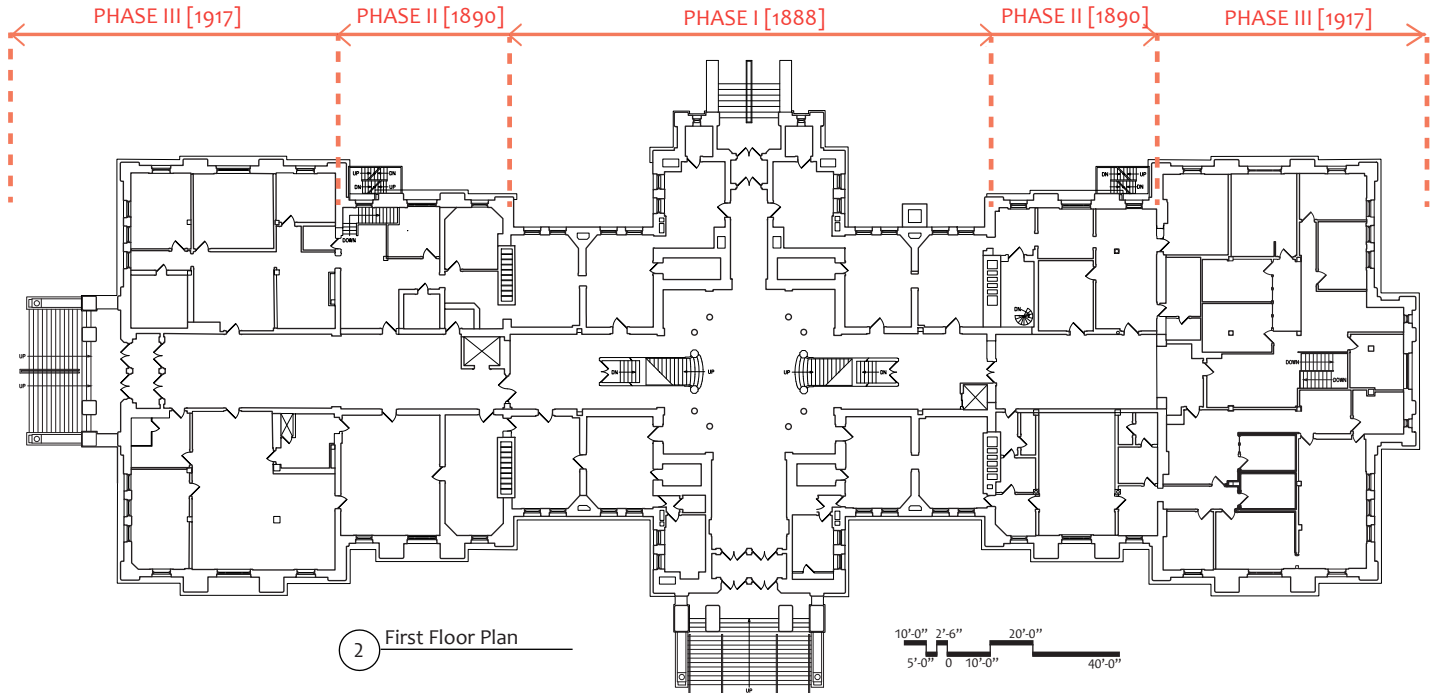


Figure 6.5.8.2: First Floor Plan

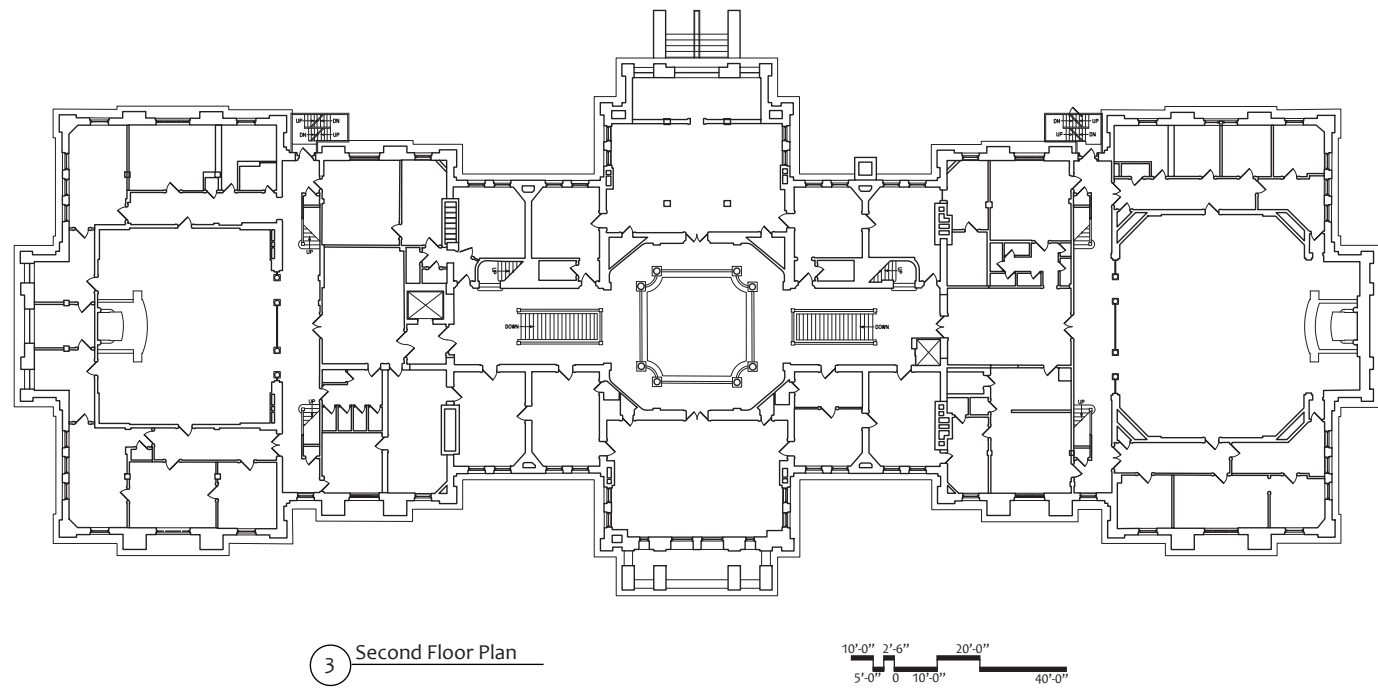


Figure 6.5.8.3: Second Floor Plan

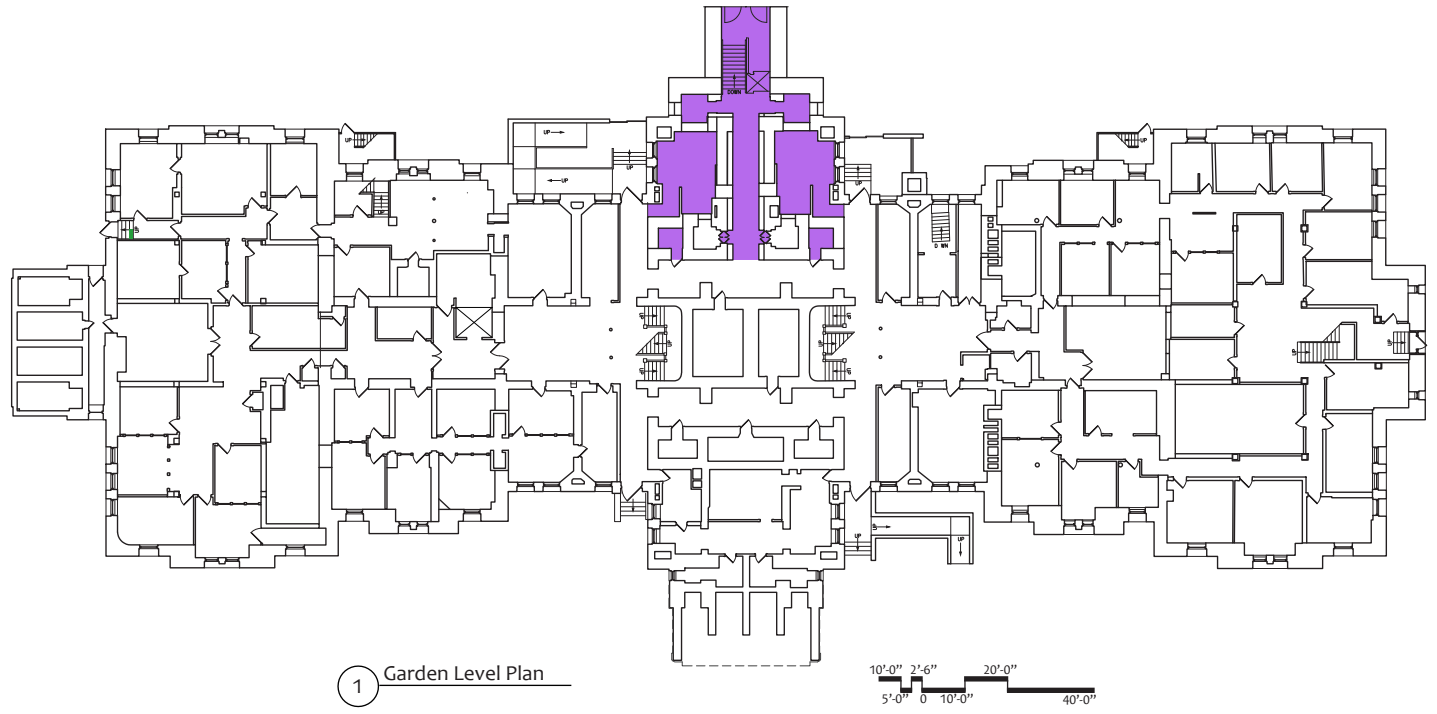


Figure 6.5.8.4: Garden Level Plan [Connection to the Connector to the Herschler Building highlighted in purple]



6.5.8 SCOPE OF WORK: INTERIOR - CONNECTION TO THE CONNECTOR TO THE HERSCHLER BUILDING



Figure 6.5.8.5: Room B85

Existing Conditions

The existing Connection to the Connector to the Herschler Building is in good condition.

Ceilings

- The low ceilings in this area make the space feel claustrophobic, especially at the stairs.
- Acoustic-tile ceilings are not appropriate to a National Historic Landmark or this area’s function as a connection between two major buildings in the Capitol Complex.

Walls

- Many walls divide up the space into compartments making visitor orientation difficult.
- Vinyl wall covering is not appropriate to a National Historic Landmark or this area’s function as a connection between two major buildings in the Capitol Complex.
- The location of the Rest Rooms in this area make the Connection narrow and basement-like even though the Garden Level floor is only a few feet below grade.

Floors

- The commercial-grade carpeting is neither appropriately durable nor befits a National Historic Landmark and this area’s function as a connection between two major buildings in the Capitol Complex.

Windows

- The Connection corridor does not have direct access to natural light and exterior views contributing to the basement-like character.

Lighting

- The quality of fixtures is appropriate to a speculative office building, not a National Historic Landmark or a connection between two major buildings in the Capitol Complex.



Figure 6.5.8.6: Room B85

Note: The term historic refers to components that date to or pre-date the *Period of Significance* of the Capitol. The term non-historic refers to components that post-date the *Period of Significance* of the Capitol.

Proposed Treatment

Ceilings

- Remove all ceilings to expose structure above.
- Provide painted stucco on historic masonry arches.
- Provide new plaster ceilings throughout between arches.

Walls

- Remove all partitions and furring except bearing walls to remain.
- Remove selected masonry bearing walls. Repair remaining walls.
- Remove finishes such as tile, base and wall covering on walls to remain
- Provide painted stucco on historic masonry walls.
- Provide new thermal-finish granite base.
- Provide access panels where required behind ‘concealed’ removable panels of walls from corner to corner of an area between ceiling and base, or ceiling and chairrail [Figure 6.5.6.8]

Floors

- Remove existing finishes such as carpet and tile.
- Repair concrete substrate.
- Provide thermal-finish granite flooring with checkerboard design and contrasting border.

Stairs

- Demolish existing stairs
- Provide two staircases with granite treads and risers with contrasting border down to Connector level.
- Provide glass guard rails and stainless steel handrails.

Interior Doors

- Refer to Interior Doors Section 6.5.11 for detailed treatment of interior doors.

Windows

- Restore/repair/re-finish in limited locations existing four paired windows to match historic wood window surrounds.
- Restore/repair/re-finish and provide new stools to two single windows to match existing historic window surrounds.
- Refer to Window Section 6.4.4 for detailed treatment of windows.

Lighting

- Remove all fixtures.
- Provide new lighting in ceiling, in-floor uplighting and in-handrail downlighting.
- Refer to Lighting Section 6.5.14 for detailed treatment of lighting.

Building Systems

- Remove all radiators, fan coil units and associated enclosures, and supply and return grilles.

6.5.8 SCOPE OF WORK: INTERIOR - CONNECTION TO THE CONNECTOR TO THE HERSCHLER BUILDING (CONTINUED)

- Remove handicapped lift.
- Provide new bronze grilles for concealed radiation units at four paired windows, and for supply and return air.
- Provide new handicapped lift/elevator with glass walls and stainless steel frame.
- Refer to Section 6.6 of this report for detailed treatment of building systems.

Signage

- Remove all signage.

Artwork/Wall-Hung Elements?

- Remove all artwork/wall-hung/wall-mounted elements. Store for possible re-use.

Furniture and Fit-out

- Remove all furniture and loose items and store for possible re-use.
- Remove all toilet partitions, fixtures and accessories.



Figure 6.5.8.7: Room B85



Figure 6.5.8.8: Room B85



Figure 6.5.8.9: Room B85



Figure 6.5.8.10: Room B39



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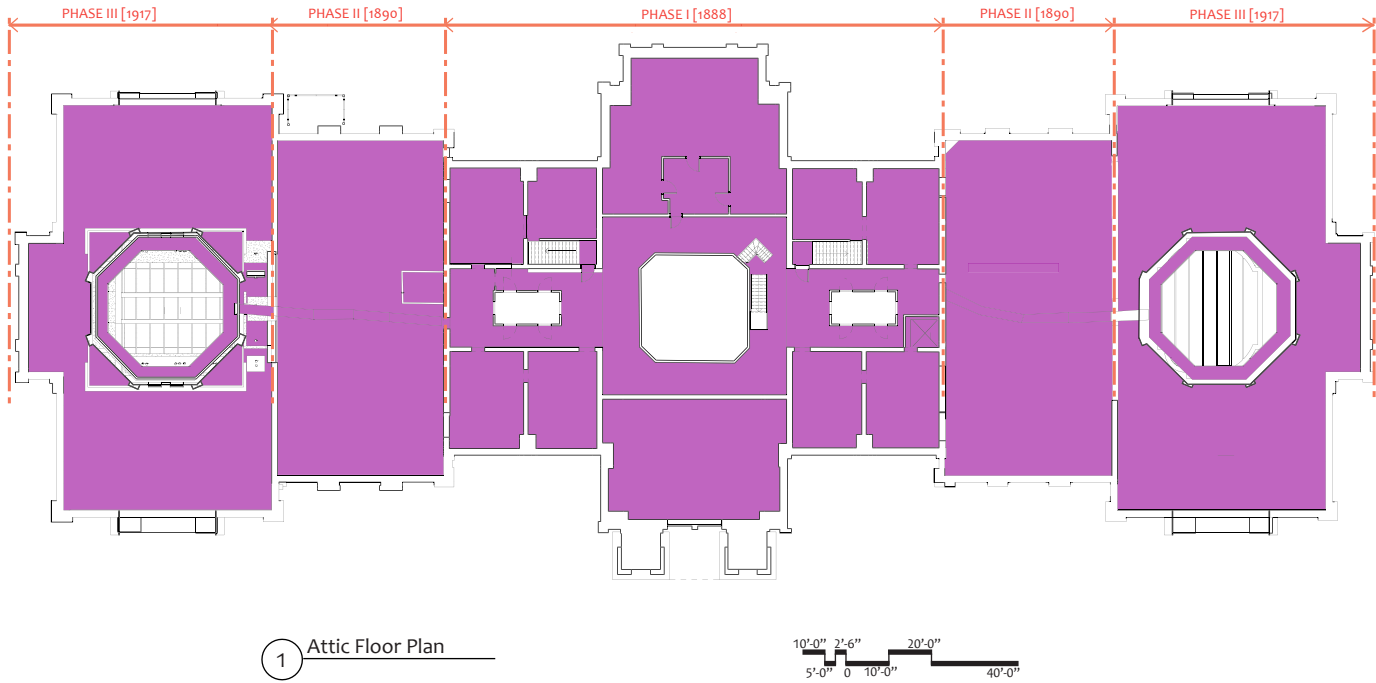
Figure 6.5.9.1: Opening for 1890 Chambers' Skylight. This photo was taken during the 1999 roof replacement.



Figure 6.5.9.2: Attic Office Area



Figure 6.5.9.3: View from above of Laylights and Lights in Third Floor Ceiling above Monumental Stairs. Note solid ceiling above rather than historic skylight.



1 Attic Floor Plan

Figure 6.5.9.4: Attic Floor Plan [highlighted in maroon]



Figure 6.5.9.5: Wooden Catwalks in Attic. Note unprotected ceiling and 1890 girders to suspend former 1890 Chambers' balcony. Girders divide up space, make access to all areas difficult, and prevent efficient space utilization.



6.5.9 SCOPE OF WORK: INTERIOR - ATTIC



Figure 6.5.9.6: Chamber Skylight as Viewed from Attic. Note light-diffusing panel above laylight below.



Figure 6.5.9.7: Attic. Note no protection is provided for ceiling below.

Existing Conditions

The Attic is largely unfinished and houses building services. It is generally in fair condition.

- Access in much of the Attic is via wooden catwalks that do not appear to have been engineered [Figure 6.5.9.5].
- Large areas of the existing ceilings are exposed to potential mechanical damage from above [Figure 6.5.9.7].
- Framing for the 1890 House and Senate Chambers skylights is still in place [Figure 6.5.9.1].
- A few areas are drywalled and carpeted offices [Figure 6.5.9.2].
- Rolling scaffolds and catwalks cast shadows on the House and Senate Chambers laylights.
- Light-diffusing panels above the House and Senate Chambers laylights significantly reduce light transmission [Figure 6.5.9.8 and Figure 6.5.9.9].
- Large girders in the 1890 section were designed to hang the 1890 House and Senate Chambers Balconies. The girders are over-sized for their current function of supporting the roof and prevent the 1890 portion of the Attic from being more useful as a building services space [Figure 6.5.9.5].
- Light monitors above the Monumental Stairs are roofed over and, as such, are a lost opportunity to admit natural light [Figure 6.5.9.3].



Figure 6.5.9.8: Senate Chamber Laylight



Figure 6.5.9.9: House Chamber Laylight. Note shadows cast by catwalks and rolling scaffolds above.

Note: The term historic refers to components that date to or pre-date the *Period of Significance* of the Capitol. The term non-historic refers to components that post-date the *Period of Significance* of the Capitol.

Proposed Treatment

- It is recommended that the Attic continue to house mechanical and electrical equipment, as it is not appropriate to be used as a finished space, given the sloping ceilings, low headroom and largely unfinished nature of the space. In addition, leaving the Attic unfinished leaves the underside of the roof available for regular inspection so that future roof problems can be identified before there is risk to historic fabric below.
- As the Attic is not large enough to house all of the mechanical equipment that is needed to serve the building, it is recommended that the Attic mechanical equipment serve the Second and Third floors only.

Ceilings

- Replace 1890 girders with shallower members to provide space for and access to mechanical units.
- Provide new skylights above the laylights at the Monumental Stairs.
- Provide new laylight enclosures below the location of the 1890 Chambers' skylights to provide a route to exhaust smoke out of building through new roof hatches, as part of the Smoke Exhaust System.
- Remove ceilings from office area.

Walls

- Remove non-load bearing partitions indicated in 2AD104.
- Provide new partitions per 2AI104.
- Remove drywall partitions and furring from office area.

Floors

- Above the House and Senate Chambers, provide new catwalks and rolling scaffold to access the laylights located to not cast shadows on the House and Senate Chambers laylights.
- Provide "bathtubs" with water sensors under all mechanical equipment to collect and sense leaks to protect historic fabric on levels below.
- Provide new engineered steel catwalks throughout to provide access to serve all equipment in Attic. Provide wood raised floor over 1888 section.
- Remove all carpet.
- Repair floors as required.

Stairs

- Provide new platform and steps over new laylights at smoke exhaust hatches above Monumental Corridors, east and west below location of 1890 House and Senate Chambers skylights.

Interior Doors

- Refer to Interior Doors Section 6.5.11 for detailed treatment of interior doors.

Finishes

- Prep and paint existing painted surfaces.
- Paint all new wood features except wood flooring/platforms/steps.

Lighting

- Remove existing lighting.
- Replace protective light-diffusing panel above the House and Senate Chambers laylights.
- Provide lighting at laylights at House and Senate Chambers, Rotunda, and Monumental Stairs, and at laylights below smoke exhaust hatches above Monumental Corridors, east and west, 1890 section.
- Provide utility lighting throughout.
- Refer to Lighting Section 6.5.14 for detailed treatment of lighting.

Building Systems

- Refer to Section 6.6 of this report for detailed treatment of building systems.

Signage

- Remove all signage.
- Provide new signage as required.

Furniture and Fit-Out

- Remove all furniture and loose items and store for possible re-use.



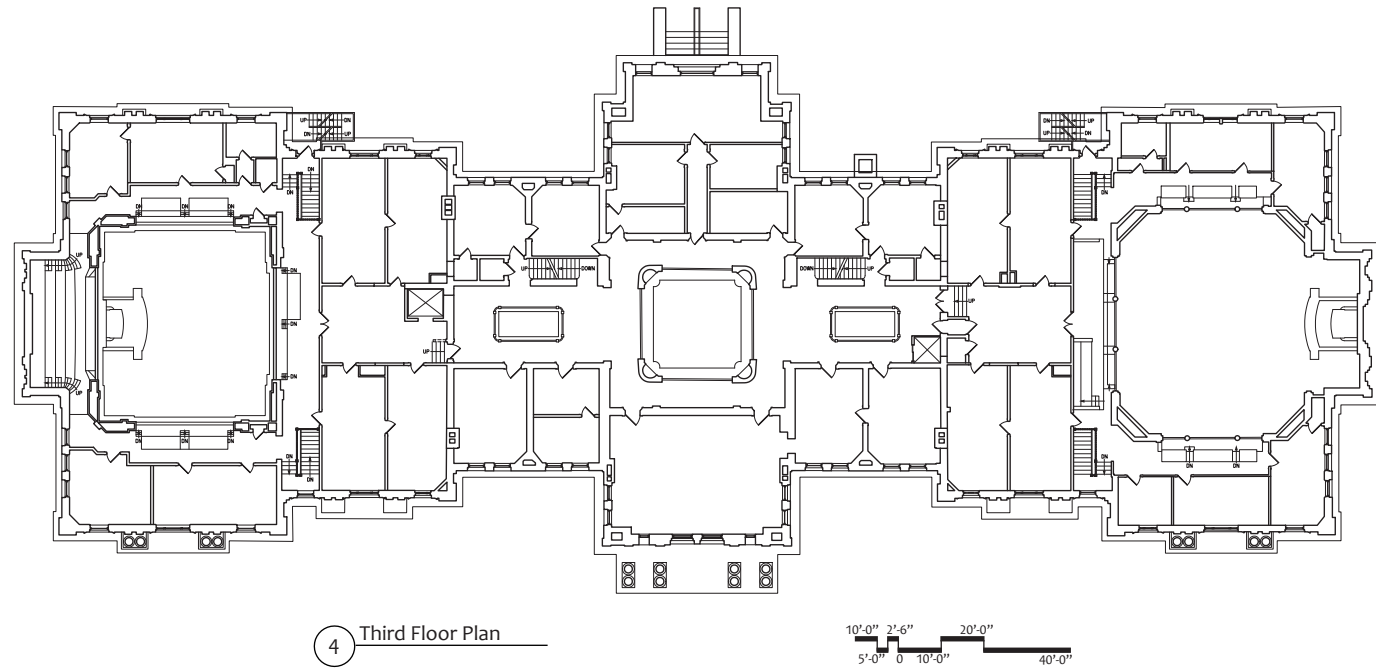


Figure 6.5.10.1: Third Floor Plan

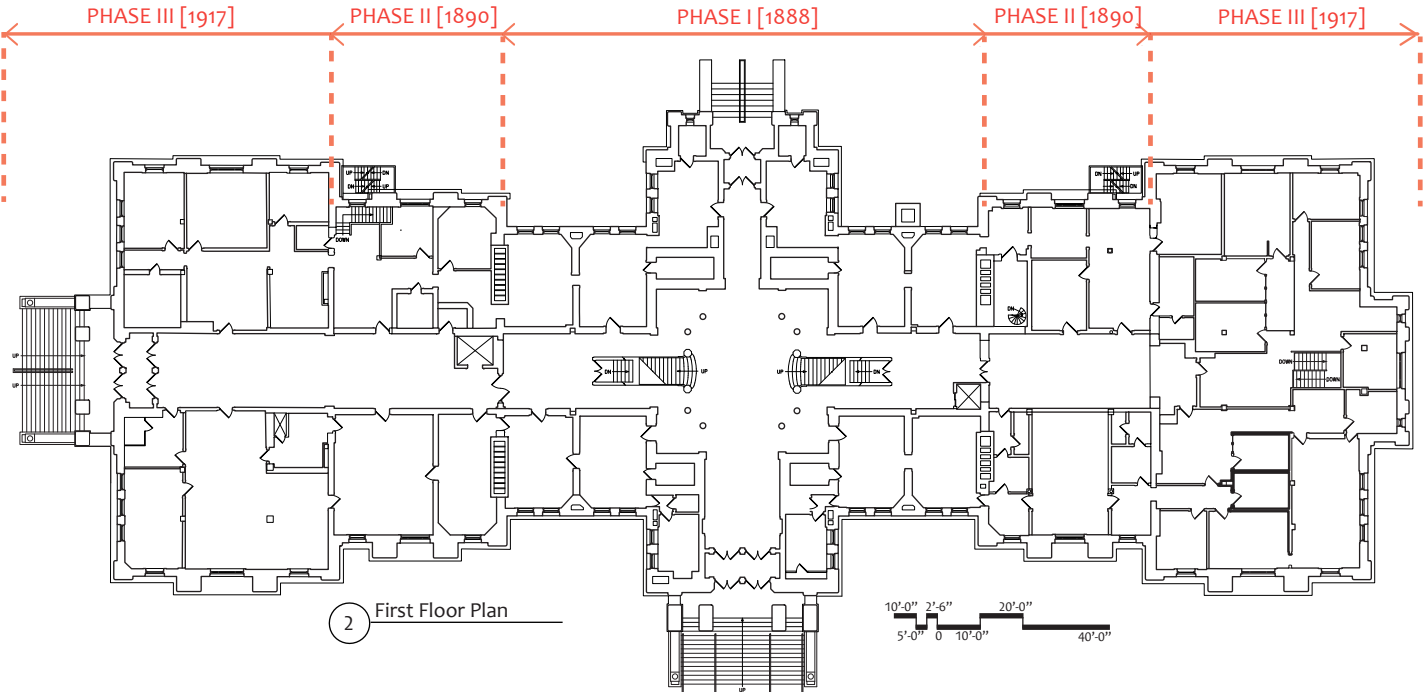


Figure 6.5.10.2: First Floor Plan

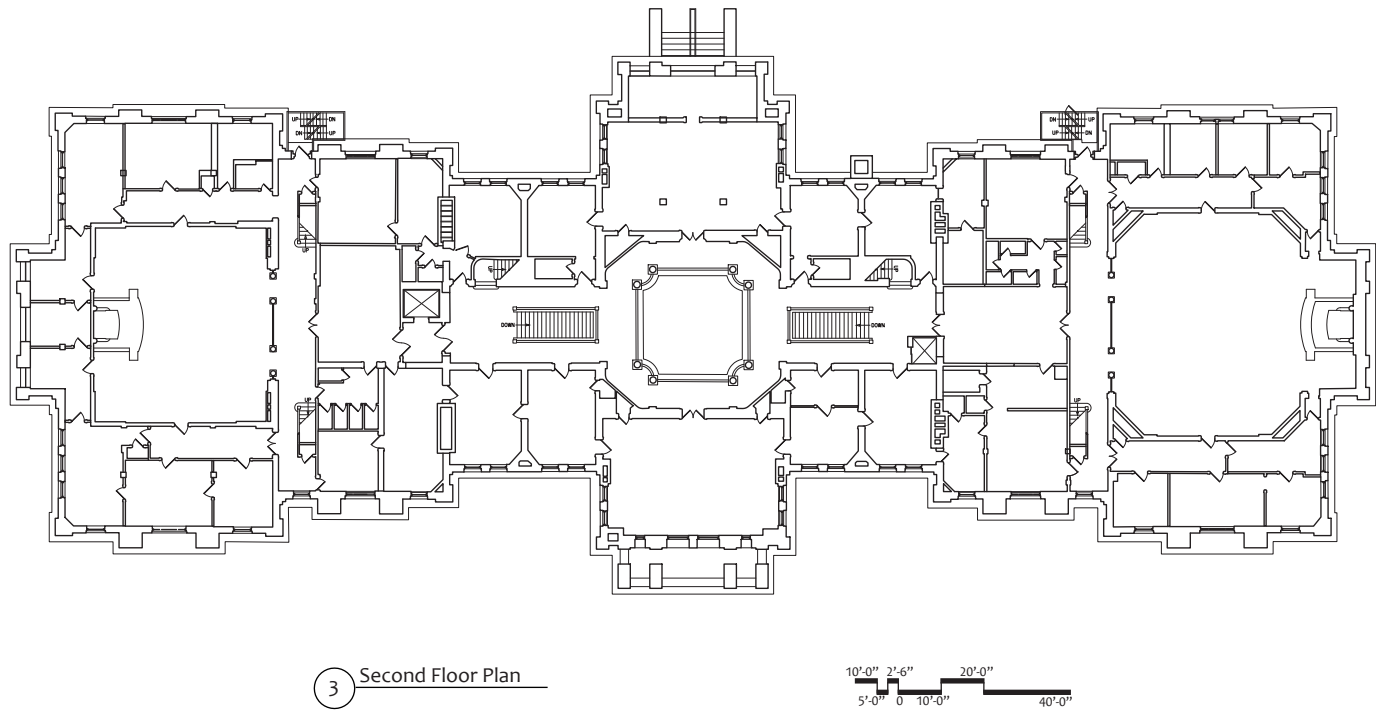


Figure 6.5.10.3: Second Floor Plan

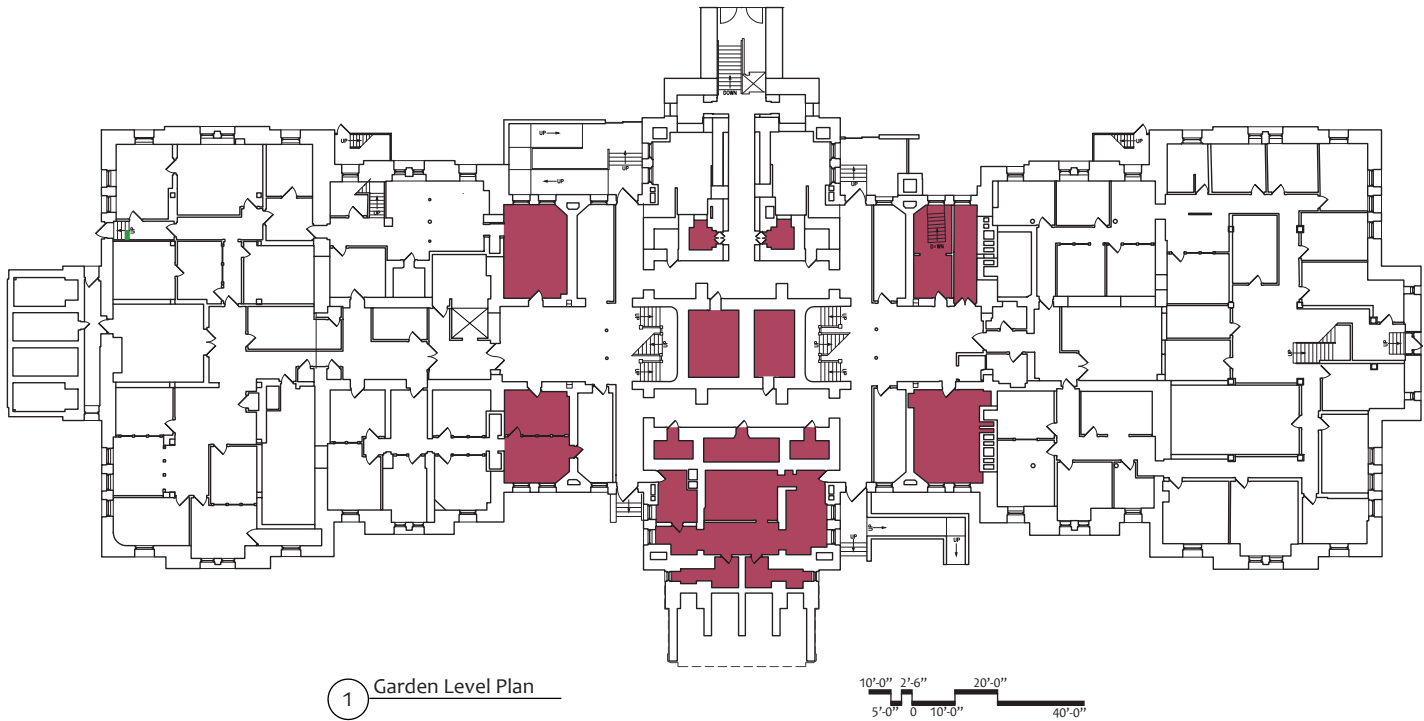


Figure 6.5.10.4: Garden Level Plan [Support/Service Areas highlighted in dark red]



6.5.10 SCOPE OF WORK: INTERIOR - SUPPORT/SERVICE AREAS



Figure 6.5.10.5: Room B81



Figure 6.5.10.6: Room B81

Existing Conditions

Attic

- The Attic currently houses some of the building’s mechanical air handling units and some electrical systems. Refer to the Attic section of this report for a more detailed discussion.

Garden Level

- Two areas of the Garden Level are specifically dedicated to housing building services, such as mechanical equipment: Rooms B81 and B36.4. They are currently unfinished spaces that are recommended to be finished spaces serving as part of new office suites [Figure 6.5.10.5, Figure 6.5.10.6, Figure 6.5.12.2].

Note: The term historic refers to components that date to or pre-date the *Period of Significance* of the Capitol. The term non-historic refers to components that post-date the *Period of Significance* of the Capitol.

Proposed Treatment

Attic

- Refer to Attic section in this report for detailed discussion.

Garden Level

- It is recommended that the mechanical units necessary to serve the Garden Level and First Floor be located in the Garden Level since the Attic only has sufficient space to house the mechanical units to serve the Second and Third Floors.
- The First Floor will be fully dedicated to Program Requirements and location of equipment in the Garden Level presents the opportunity to provide below-floor horizontal distribution of systems reducing the necessity of lowering ceilings to accommodate building systems. Areas of depressed slabs with access floor above and deeper trenches in select areas are proposed as routes for horizontal distribution. Depressed slabs and trenches are not proposed in the vicinity of the Rotunda to protect the structural integrity of its foundations.
- It is recommended that the Garden Level Mechanical Rooms be located in Rooms B11, B16, B41, and B46 due to their proximity to the vertical chases at the 1888/1890 interface. This will take advantage of the design opportunity described in the Level I-II Report presented by these chases for vertical distribution of systems. In addition, much of B48 is already dedicated to building systems and has little historic fabric.

Ceilings

- Provide new ceilings with acoustic treatment and isolation to reduce transmission of equipment noise and vibration outside four proposed Mechanical Rooms B11, B16, B41, and B46.
- In Rooms B00.1 and B00.2, remove all interior finishes to structure. Provide stucco on arches and new plaster ceiling at flat areas.
- Provide acoustic ‘ceiling’ across vertical chases directly connected to proposed Mechanical Rooms at all floor levels. Provide sleeves in these ‘ceilings’ acoustically sealed to ducts and pipes rising in chases.

Walls

- Remove existing furring, plaster, base and trim from existing masonry walls to remain.
- Stucco walls on B00.1 and B00.2.
- Remove non-masonry partitions in proposed Mechanical Rooms.
- Remove existing chase walls at 1888/1890 interface at Mechanical Rooms.
- Provide new 8” CMU walls to create new two hour chases at 1888/1890 interface.
- Provide acoustic treatment/parging to all walls and chases in proposed Mechanical Rooms.
- Provide new drywall furring and ceilings in all rooms except the four proposed Mechanical Rooms.
- Close up door opening between B16 and B17 with CMU to match thickness of existing masonry. Finish to match existing on public side, including all ornamental wood trim.

Floors

- Remove slab in proposed Mechanical Rooms B11, B16, B41, and B46.
- Remove ramp down to tunnel north of the Capitol (Room B41)
- Provide new depressed slab with steel grid access floor above at same elevation as Main Corridor finished floor in four proposed Mechanical Rooms, B11, B16, B41, and B46.



6.5.10 SCOPE OF WORK: INTERIOR - SUPPORT/SERVICE AREAS (CONTINUED)

- Provide concrete slabs, if not present, below North Entry, Rooms B04.1, B04.2, B04.3, B04.4.
- Provide polished finish on all concrete slabs.
- Repair all slabs as required.

Interior Doors

- Refer to Interior Doors Section 6.5.11 for detailed treatment of interior doors.

Stairs

- Remove stair in Room 48.2.
- Provide ladder down to depressed slab area below in four proposed Mechanical Rooms.

Lighting

- At the four proposed Mechanical Rooms, provide diffused utility lighting so as to create a uniform exterior appearance of the windows relative to other windows in the building on the North and South Elevations.
- Provide utility lighting elsewhere.

Windows

- Provide one layer of translucent glass in the replacement windows to obscure the view into the four proposed Mechanical Rooms from the exterior.
- Refer to Windows Section 6.4.4 of this report for detailed treatment of windows.

Building Systems

- Provide mechanical equipment in each proposed Mechanical Room to serve a quadrant of the First and Second Floors.
- Provide smoke exhaust equipment South of the Rotunda per the Mechanical Drawings.
- Refer to Section 6.6 of this report for detailed treatment of building systems.

Signage

- Remove all signage.
- Provide new signage as required.

Artwork/Wall Hung Elements

- Remove, clean, store and install in new locations all artwork and wall-hung elements.

Furniture and Fit-Out

- Remove, clean, store and re-install all loose furniture such as shelving, chairs, cubicles, desks, and files.



Figure 6.5.10.7: Room B37, State Auditor's Office



Figure 6.5.10.8: Room B11, Secretary of State's Office



Figure 6.5.10.9: Room B49, Private Office



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6.5.11 SCOPE OF WORK: INTERIOR DOORS
 TERMINOLOGY P.1 OF 2



Figure 6.5.11.1: Elements of Door Hierarchy Typical of Doors in the Public Domain on the First Floor in 1888 Phase 1 Period of Construction.

- Half-round arched operable transom window.
- Splayed plaster jamb.
- Raised wood panels above glazed lite.
- 3/4-round wood bead
- Turned wood molding over square base
- 'Plinth Block' with decorative chamfered edge
- Panelled chairrail



Figure 6.5.11.2: Elements of Door Hierarchy Typical of Doors in the Public Domain on the Second Floor in 1888 Phase 1 Period of Construction.

- Rectangular operable transom window.
- Splayed plaster jamb.
- Raised wood panels above glazed lite.
- 3/4-round wood bead
- Turned wood molding over square base
- 'Plinth Block' with decorative chamfered edge
- Panelled chairrail



6.5.11 SCOPE OF WORK: INTERIOR DOORS (CONTINUED)

TERMINOLOGY P.2 OF 2

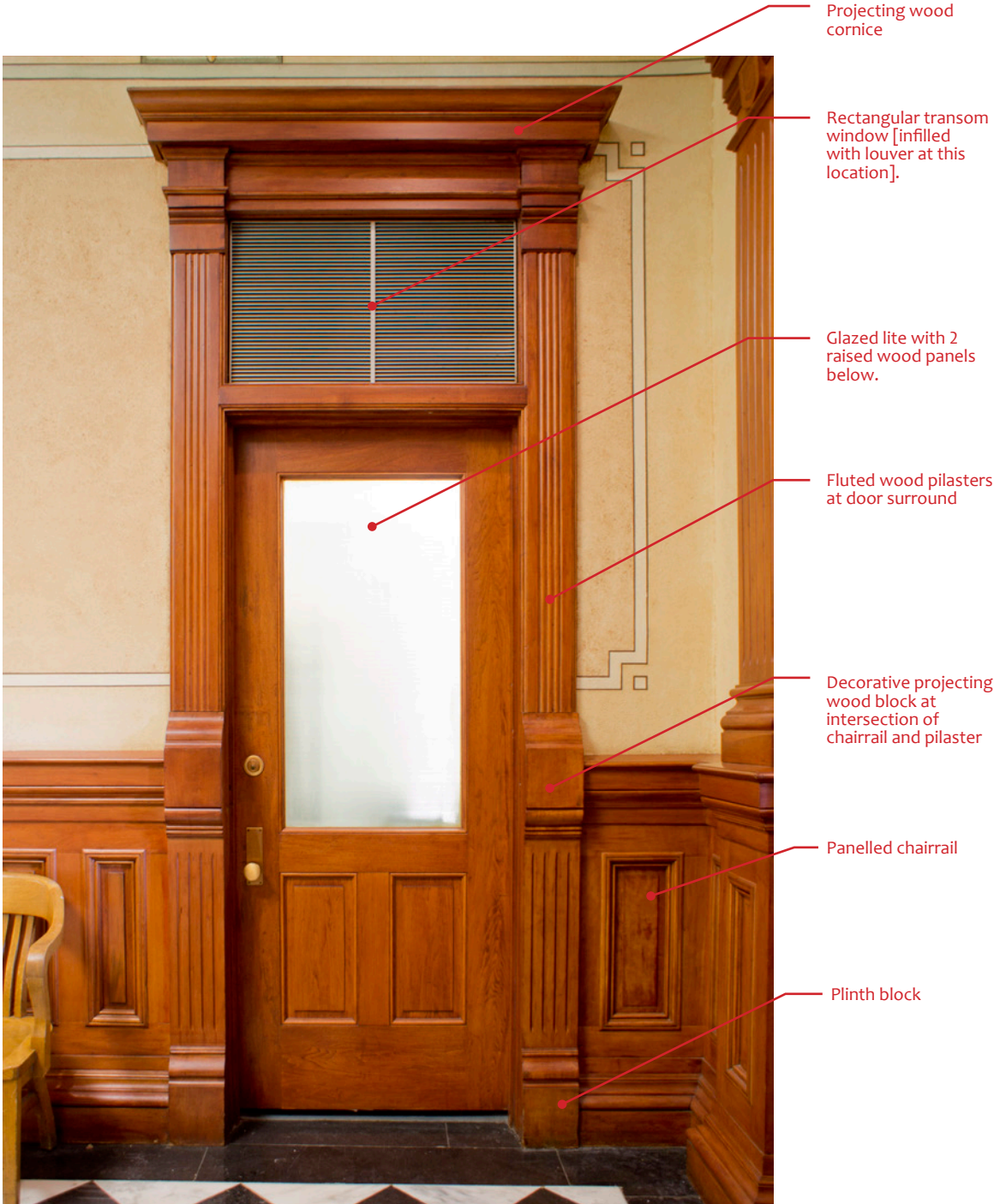


Figure 6.5.11.3: Elements of Door Hierarchy Typical of Doors in the Public Domain on the First Floor in 1917 Phase 3 Period of Construction.

No transom window.

Raised wood
[Replacement for
original glazed lite]
over 2 raised wood
panels below.

Splayed plaster jamb.

3/4-round wood bead

Turned wood molding
over square base

Wood base

Plinth block



Figure 6.5.11.4: Elements of Door Hierarchy Typical of Doors in the Public Domain on the Third Floor in 1888 Phase 1 Period of Construction.



6.5.11 SCOPE OF WORK: INTERIOR DOORS (CONTINUED)



Figure 6.5.11.5: Door 103a is Typical of those with Half-Round Arched Transoms in First Floor Public Spaces from the Phase I and II (1888 & 1890) Periods of Construction.

Existing Conditions

Interior Doors vary in size and type according to their building phase, location in the building, and hierarchy of function.

Differences among interior doors include:

- historic and replacement doors
- transoms
- glazed and panelled doors
- round-arched or flat door heads
- complexity of surrounds
- finish of doors and frames
- Refer to pages 6.5.41 - 6.5.46 in this Section 6.5.11 and Volume III B of this report for historic analysis and condition inventory.

Garden Level

The majority of the historic Garden Level doors are located below the Rotunda and are metal safe doors [Figure 6.5.11.6]. These doors share similar characteristics:

- outside, single-leaf, metal-plate door painted gloss black or brown on the outside face
- tubular hinges with bearings
- metal decorative or flat surround
- interior vertical slide bolts at top and bottom. Some include 4 additional horizontal slide bolts at both hinge and latch sides
- decorative black and gold painting on the interior door face with manufacturer indicated as Mosler Safe and Lock Company, Cincinnati, Ohio
- short interior vestibule with metal ceiling and side walls
- interior set of paired metal door leaves of similar construction

Other Garden Level doors are flush panel doors, non-historic 20th century metal doors, and c. 1970 replica wood doors that match historic models.

First Floor

The doors surveyed at the First Floor included those in the 1888 Phase I period of construction and in the Monumental Corridor connecting the Rotunda to the West Entry [Figure 6.5.11.65 and Figure 6.5.11.81].

Phase I and II

The doors facing the Rotunda and Monumental Corridor share the following characteristics:

- an arched door surround with splayed jambs
- a bold wood bead with column base defining the opening above the chair rail
- a chamfered “plinth block” extending the full height of the chair rail
- arched operable transom window
- paneled wood door with glass lite above the lockrail

Note: The term historic refers to components that date to or pre-date the *Period of Significance* of the Capitol. The term non-historic refers to components that post-date the *Period of Significance* of the Capitol.



Figure 6.5.11.6: Door B52a is Typical of the Metal Safe Doors at the Garden Level.



Figure 6.5.11.7: Door 111a is Typical of those with Rectangular Transoms in Public Spaces on the First Floor from the Phase III (1917) Period of Construction.



6.5.11 SCOPE OF WORK: INTERIOR DOORS (CONTINUED)

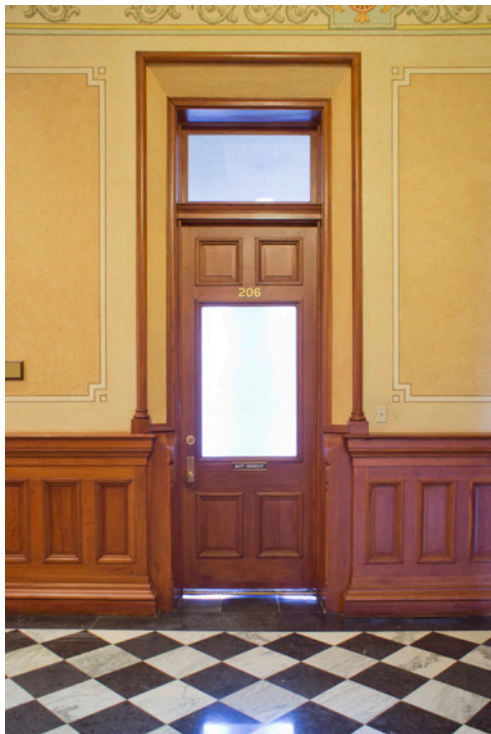


Figure 6.5.11.8: Door 206a is Typical of those with Rectangular Transoms in Public Spaces on the Second Floor from the Phase I and II (1888 & 1890) Periods of Construction.



Figure 6.5.11.9: Door 302a is typical of doors in public spaces on the Third Floor from the Phase I and II periods of construction.

Phase III

Doors facing the west end of the Monumental Corridor [Figure 6.5.11.8] share the following characteristics:

- a bold flat cornice on bracketed pilasters
- rectangular operable transom window
- fluted pilasters with varied molding profiles above and below the chair rail
- paneled wood door with glass lite above the lockrail.

Doors between offices have the same molding profiles at the jambs as the doors in the Monumental Corridor but, depending on the hierarchy of the space, may or may not have transoms.

First Floor Safes

There are a series of doors to safes accessed from the offices that surround the Rotunda. In contrast with the Garden Level Safes, these have:

- Metal doors painted brown
- Elaborate metal surrounds with fluted pilasters and arched broken pediments topped by a decorative urn.
- One non-historic safe door exists in an area planned for reorganization and the door’s relocation will need to be carefully considered

Second Floor

Doors that face the Rotunda and Monumental Corridor in Phase I also bear splayed jambs and large wood beads above the chair rail. Differences between them and the First Floor doors are:

- All second floor doors have rectangular transoms.
- Although the historic drawings indicate glass at the majority of the doors, many glass panels have been replaced with wood panels.
- Some historic wavy glass panels exist, but many of the doors have flat glass panes, or glass that is textured to obscure view.
- Paired doors into spaces north and south of the Rotunda have large double action hinges.

Phase 2 and 3 doors also have rectangular transoms within the public domain. Due to Phase 3 reconfiguring of Phase 2 spaces at the Second Floor, door surrounds are consistent with Phase 3 detailing.

Third Floor

These doors contain many of the same wood profiles as those on the lower floors per their period of construction, but they are arranged in simpler compositions [Figures 6.5.11.4 & 6.5.11.9]. Doors that face public spaces have:

- the same splayed jambs and bold wood bead, but transoms are absent and the doors are not as tall.
- The wood bead extends to a plinth block at the wood base at the floor instead of terminating at a chair rail.
- Many of the historic clear glass panels on doors facing public spaces are replaced with textured glass.

Note: The term historic refers to components that date to or pre-date the *Period of Significance* of the Capitol. The term non-historic refers to components that post-date the *Period of Significance* of the Capitol.

Proposed Treatment

For Scope of Work, refer to this Section 6.5.11 and Volume III B in combination. All directions apply to doors and surrounds.

- Repair and clean all doors, surrounds and hardware as required.
 - Remove non-historic doors and surrounds and salvage for possible reuse.
 - All doors and surrounds to be wood unless otherwise noted.
 - Remove and Reinstall in new locations historic doors and surrounds in 1890-1917 interface to accommodate new chases and locations of duct risers.
1. Garden Level Doors and Surrounds:
- Provide new Garden Level doors and surrounds in species historic to First Floor in spaces comparable to those on First Floor.
 - The vast majority of the doors are non-historic, with the exception of the safe doors.
 - Remove Safe doors, restore and reinstall.
 - Remaining Garden Level doors can be organized in the following categories:
 - a. 6 new sets of double doors, 3 in each of the East and West Vestibules at the bottom of the Monumental Stairs, [Figure 6.5.2.10]. Doors and surrounds to be based on historic precedents, but simpler. Provide glass rather than bronze grilles at 4 portals into exterior vestibules
 - b. Doors into Mechanical Rooms [1888 Section of the building, B11, B16, B41, B46]
 - Provide surrounds in historic design, wood species and finish, including transoms. Provide spandrel glass at transoms.
 - Provide new doors in historic design, wood species and finish, with profiled wood panels above and below the lockrail.
 - Install doors in historic design at outside edge of door jambs, opening out into the East-West corridor.
 - Provide acoustical treatment at door jambs Corridor [outer] doors.
 - Provide interior acoustical steel doors and frames with acoustic seals and treatment.
 - Provide acoustical panel behind transom of outer door.
 - Remove door and frame between B16 and B17.
 - c. Two new wood panelled doors and surrounds, one each into B19 and B49 the same design as ‘b’ with one difference:
 - Install doors at the inside edge of the door jamb, swinging into the space.
 - d. New doors opening north and south to Monumental Corridor in 1890 Section of the building are to be similar in design to ‘b.’ with these differences:
 - Install doors at the inside edge of the door jamb and swing into the office space.
 - Doors and surrounds to be new and based on historic precedents in design, wood species and finish. However, profiles of frames shall be simpler than historic precedents and doors shall be a single profiled wood panel below a glass lite above the lockrail.

6.5.11 SCOPE OF WORK: INTERIOR DOORS (CONTINUED)

- e. Two new sets of double doors [portals] to Office Suites [East and West Phase III] are to be doors with glass panels above and single wood panels below. Design of doors and surrounds to be based on historic precedents in design, wood species and finish.
 - f. All doors within Office Suites to be new and based on historic precedents in design, wood species and finish. However, profiles of frames shall be simpler than historic precedent and doors shall have a single profiled wood panel below a glass lite similar to Garden Level doors shown in [Figure 6.5.11.11](#).
 - g. Paired stainless steel-framed glass doors with stainless steel frames, and stainless steel-framed glass side lites and transoms into the Connector to the Hershler Building.
- Open Items:
 - Hardware [card access vs. conventional]
 - Signage
2. First Floor Doors and Surrounds:
- Public Domain / Monumental Corridors
 - All doors and surrounds, including missing or modified transoms, to be restored at locations where doors are indicated in the proposed work drawings, including into Rooms 146 and 151.
 - Restore two doors and openings near the South Entrance opening into Room 103 [[Figure 6.5.11.10](#)] Match historic Monumental Corridor doors and surrounds in design, wood species and finish.
 - Interior Doors [Within Rooms]
 - a. 1888 and 1890 Section
 - New doors and surrounds to be based on historic precedent in design, wood species and finish.
 - Remove and salvage door and trim in partition in Room 205 for possible re-use.
 - b. 1917 Section:
 - Design, species and finish of doors and surrounds to be based on historic design precedent with simpler profiles, and one wood panel below and one glass panel above the lockrail, similar to Garden Level doors in [Figure 6.5.11.11](#).
 - Governor’s Suite
 - a. Governor’s Suite Entrance
 - New wood-framed glass double doors with side lights and transoms [all safety glass] similar to [Figure 6.5.2.10](#), but glass in place of bronze grilles.
 - b. Governor’s Office Door:
 - Solid wood double doors based on historic precedent in design, wood species and finish, with a single profiled wood panel above and below the lockrail.
 - c. Other Doors within Suite but not on Monumental Corridor:
 - Same as Governor’s Office Door, but with glass panel above the lockrail, similar to Garden Level doors in [Figure 6.5.11.11](#).

- Open Items:
 - Analysis of finishes / Determination of natural finish for millwork
 - Hardware [card access vs. conventional]
 - Signage
3. Second Floor Doors and Surrounds:
- a. Public Domain / Monumental Corridors 1888 Section:
 - Original Doors to be restored
 - New doors to match historic in design, wood species and finish.
 - b. Interior Doors [Within Rooms] 1888 and 1890 Section:
 - Restore existing historic doors
 - New Doors and surrounds to be based on historic precedent in design, wood species and finish.
 - c. House and Senate Chamber south wall Lobbies Doors, 1890 Section:
 - New Doors and surrounds to be based on historic precedent in design, wood species and finish.
 - d. Chambers
 - New portals [1888/1890 interface] to be based on historic precedent in design, wood species and finish similar to [Figure 6.5.2.10](#), but with glass in place of bronze grilles.
 - Restore existing historic doors and surrounds.
 - New doors and surrounds into chambers to be based on historic precedent in design, wood species and finish.
 - Remove doors to fire escapes ad replace with windows, per Windows Section 6.4.4.
 - Provide new double doors and surrounds at Second Floor, north Senate Chamber offices Corridor to match historic precedent in design, wood species and finish.
 - e. Interior Doors 1917 Section:
 - Doors visible from chambers
 - Restore historic doors
 - New Doors to be based on historic precedent in design, wood species and finish.
 - Doors not visible from chambers
 - Restore historic doors
 - New Doors: Design parameters same as 1917, First Floor ‘Interior’ Doors, but with historic precedent as basis, similar in design to Garden Level door shown in [Figure 6.5.11.11](#).

- Open Items:
 - Hardware [card access vs. conventional]
 - Signage
4. Third Floor Doors and Surrounds:
- Same items as Second Floor except no new portals at 1888 / 1890 interface
 - Design parameters are to be Third Floor historic doors as basis.
5. Doors in Service Cores
- a. Electrical / Telecom Room Doors - solid wood doors located behind concealed access panels similar to [Figure 6.5.6.8](#).
 - b. Restroom Doors on Second and Third Floors - Doors and surrounds to match design, wood species and finish of existing doors and surrounds at closets below the House and Senate Chambers stairs with solid wood panels above and below the lockrail. Provide acoustic seals on doors.
 - c. Janitor’s Mop Sink Doors - Stainless Steel
 - d. Restroom and Stair Doors on First Floor - Match historic Monumental Corridor doors and surrounds in design, wood species and finish.
 - e. Restroom and Stair Doors on Garden Level - Provide doors and surrounds in design, wood species and finish based on vocabulary of building history but with simpler profiles. Doors shall have a single profiled wood panel below a single glazed panel.
6. Attic
- Restore two doors into Attic at top of stairs.
7. Finishes:
- a. Provide analysis of finishes and mock-ups for approval.



Figure 6.5.11.10: No Longer Existing Door 105a Will be Reconstructed Based on Historic Profiles and Reinstalled at the Restored Opening.



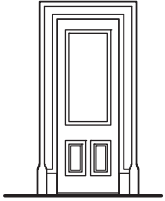
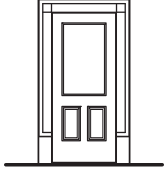
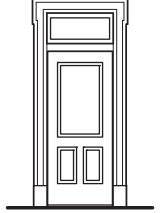
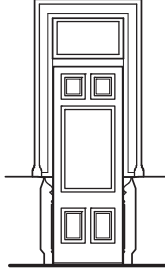
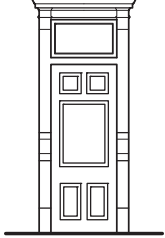
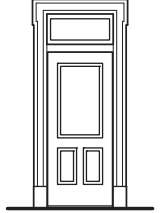
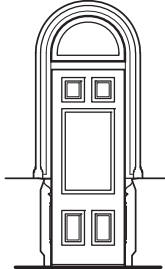
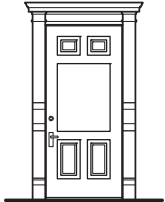
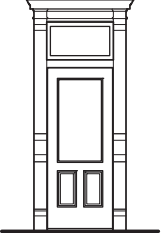
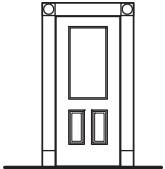
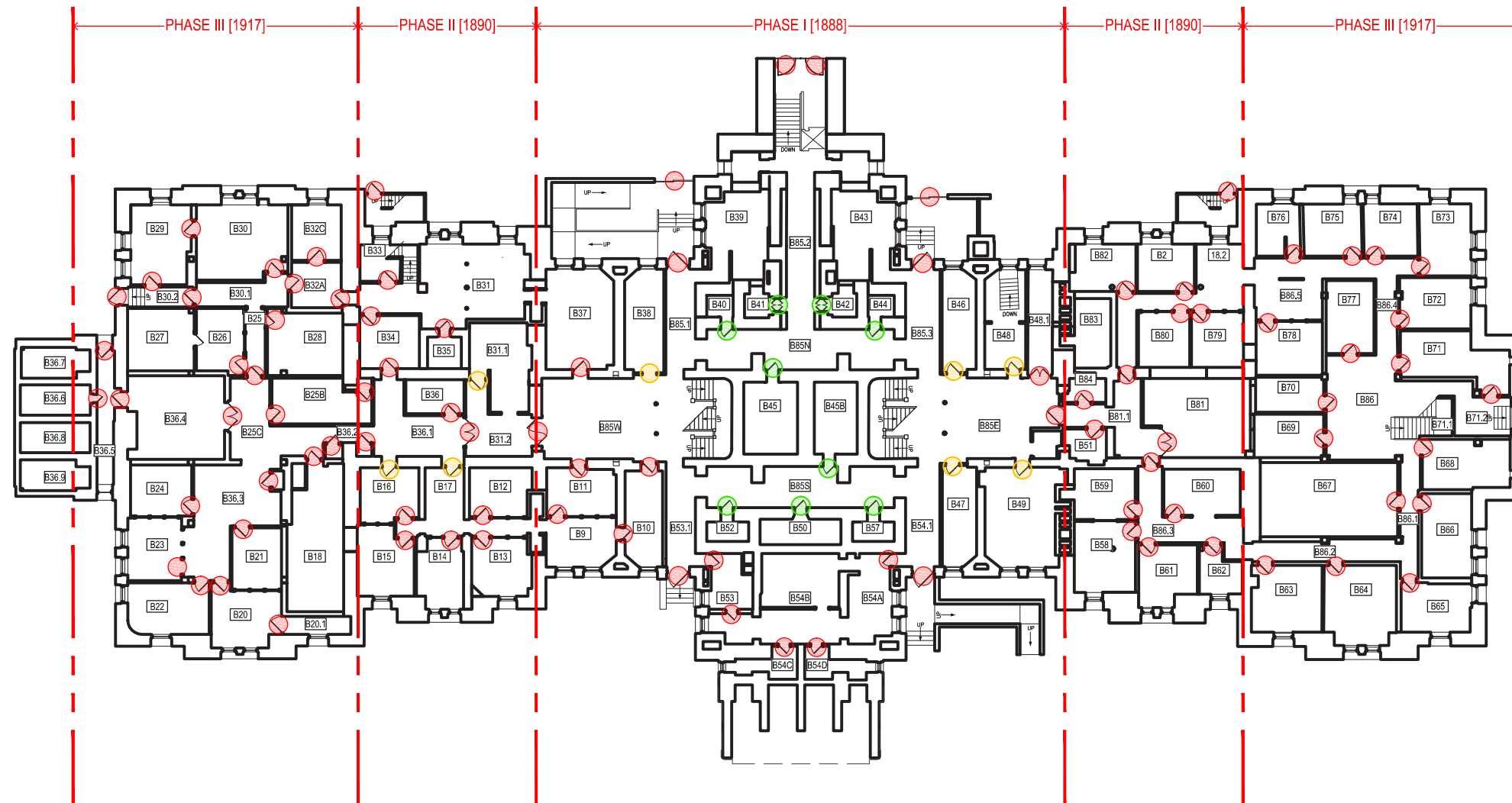
Third Floor	 <ul style="list-style-type: none"> GLAZED LITE AND 2 RAISED PANELS NO TRANSOM WINDOW RECTANGULAR DOOR SURROUND WITH SPLAYED PLASTER JAMBS 3/4-ROUND WOOD BEAD AT PERIMETER OF SPLAYED JAMB CONTINUES TO BASE MOLDING 	 <ul style="list-style-type: none"> GLAZED LITE AND 2 RAISED PANELS NO TRANSOM WINDOW RECTANGULAR DOOR SURROUND DECORATIVE BACKBAND [PROFILED EDGE] SMALL 'PLINTH BLOCK' AT TRANSITION WITH BASE MOLDING 	 <ul style="list-style-type: none"> GLAZED LITE AND 2 RAISED PANELS RECTANGULAR TRANSOM WINDOW RECTANGULAR DOOR SURROUND WITH WIDE BACKBAND [PROFILED EDGE] AND 'LUGGED ARCHITRAVE' [LEFT AND RIGHT 'EARS' AT TOP] SMALL 'PLINTH BLOCK' AT TRANSITION WITH BASE MOLDING
Second Floor	 <ul style="list-style-type: none"> GLAZED LITE AND 4 RAISED PANELS RECTANGULAR OPERABLE TRANSOM WINDOW RECTANGULAR DOOR SURROUND WITH SPLAYED PLASTER JAMBS 3/4-ROUND WOOD BEAD AT PERIMETER OF SPLAYED JAMB WOOD 'PLINTH BLOCK' WITH CHAMFERED EDGE AT CHAIR RAIL TRANSITION 	 <ul style="list-style-type: none"> GLAZED LITE AND 4 RAISED PANELS RECTANGULAR OPERABLE TRANSOM WINDOW RECTANGULAR DOOR SURROUND WITH FLUTED PILASTERS AT JAMB PROJECTING WOOD CORNICE WITH CROWN MOLDING AT TRANSOM HEAD DECORATIVE PROJECTING WOOD BLOCK AT INTERSECTION OF THE CHAIR RAIL AND WOOD PILASTER SMALL 'PLINTH BLOCK' AT TRANSITION WITH BASE MOLDING 	 <ul style="list-style-type: none"> GLAZED LITE AND 2 RAISED PANELS RECTANGULAR TRANSOM WINDOW RECTANGULAR DOOR SURROUND WITH WIDE BACKBAND [PROFILED EDGE] AND 'LUGGED ARCHITRAVE' [LEFT AND RIGHT 'EARS' AT TOP] SMALL 'PLINTH BLOCK' AT TRANSITION WITH BASE MOLDING
First Floor	 <ul style="list-style-type: none"> GLAZED LITE AND 4 RAISED PANELS HALF-ROUND ARCHED OPERABLE TRANSOM WINDOW ARCHED DOOR SURROUND WITH SPLAYED PLASTER JAMBS 3/4-ROUND WOOD BEAD AT PERIMETER OF SPLAYED JAMB WOOD 'PLINTH BLOCK' WITH CHAMFERED EDGE AT CHAIR RAIL TRANSITION 	 <ul style="list-style-type: none"> GLAZED LITE AND 4 RAISED PANELS NO TRANSOM WINDOW RECTANGULAR DOOR SURROUND WITH FLUTED PILASTERS AT JAMB PROJECTING WOOD CORNICE WITH CROWN MOLDING AT DOOR HEAD DECORATIVE PROJECTING WOOD BLOCK AT INTERSECTION OF THE CHAIR RAIL AND WOOD PILASTER SMALL 'PLINTH BLOCK' AT TRANSITION WITH BASE MOLDING 	 <ul style="list-style-type: none"> GLAZED LITE AND 2 RAISED PANELS RECTANGULAR OPERABLE TRANSOM WINDOW RECTANGULAR DOOR SURROUND WITH FLUTED PILASTERS AT JAMB PROJECTING WOOD CORNICE WITH CROWN MOLDING AT TRANSOM HEAD DECORATIVE PROJECTING WOOD BLOCK AT INTERSECTION OF THE CHAIR RAIL AND WOOD PILASTER SMALL 'PLINTH BLOCK' AT TRANSITION WITH BASE MOLDING
Garden Level	 <ul style="list-style-type: none"> GLAZED LITE AND 2 RAISED PANELS NO TRANSOM WINDOW RECTANGULAR DOOR SURROUND SMALL SIMPLIFIED 'PLINTH BLOCK' AT TRANSITION WITH BASE MOLDING DOOR SURROUND HAS BEEN MODIFIED FROM ORIGINAL 		
	Hierarchy at 1888 Phase 1	Hierarchy at 1917 Renovations to 1890 Phase 2	Hierarchy at 1917 Phase 3

Figure 6.5.11.11: Diagram of Hierarchy Historic Door Designs.



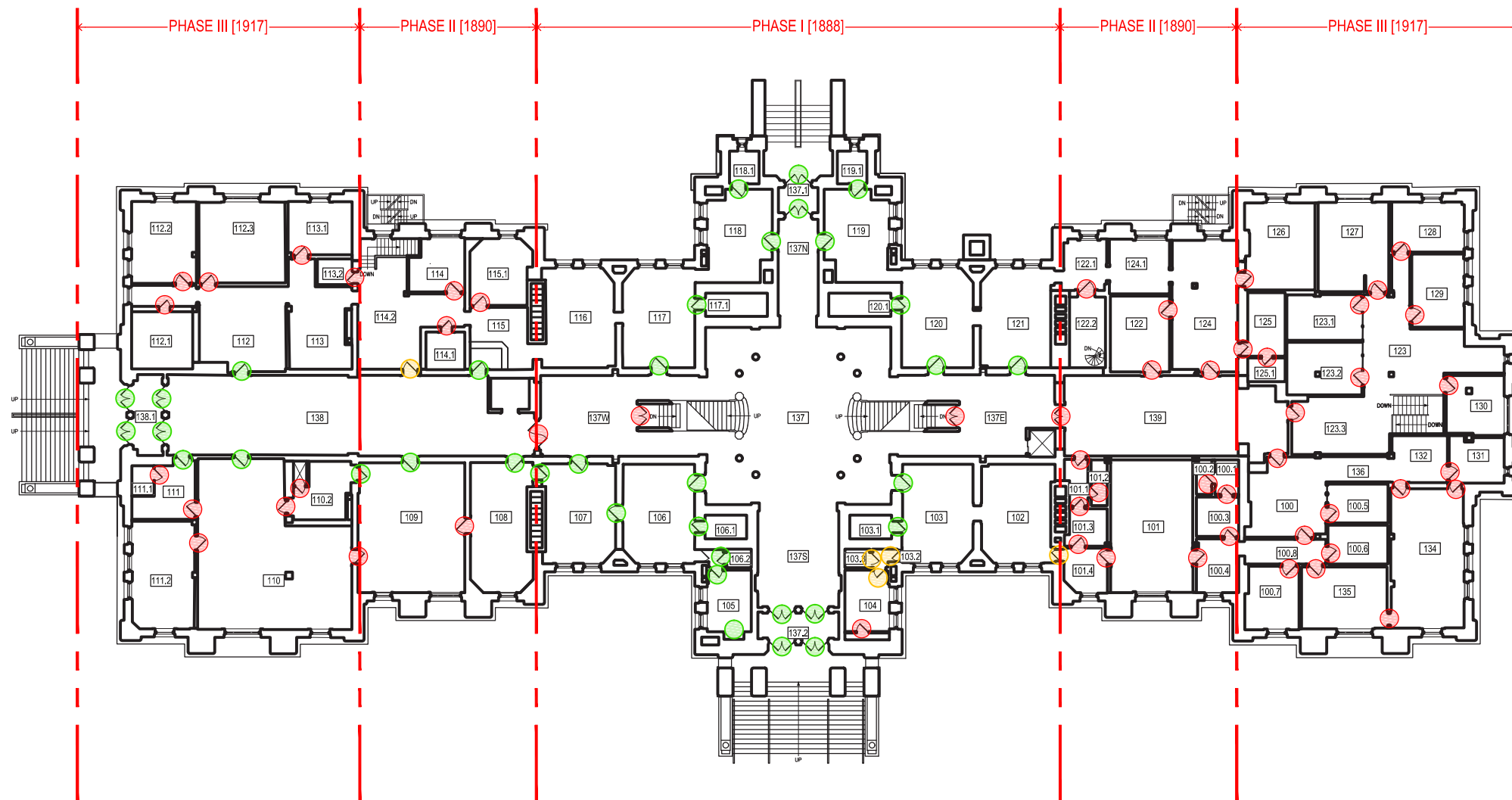
1 GARDEN LEVEL PLAN - EXISTING DOOR INVENTORY / PROPOSED USE

0 16'-0" 32'-0" 64'-0"

- TYPES OF DOORS
- ORIGINAL AND ASSUMED ORIGINAL DOORS TO REMAIN
 - EXISTING DOOR TO POTENTIALLY BE REUSED
 - EXISTING DOOR TO BE REMOVED

Figure 6.5.11.12: Existing Door Inventory / Proposed Use Diagram



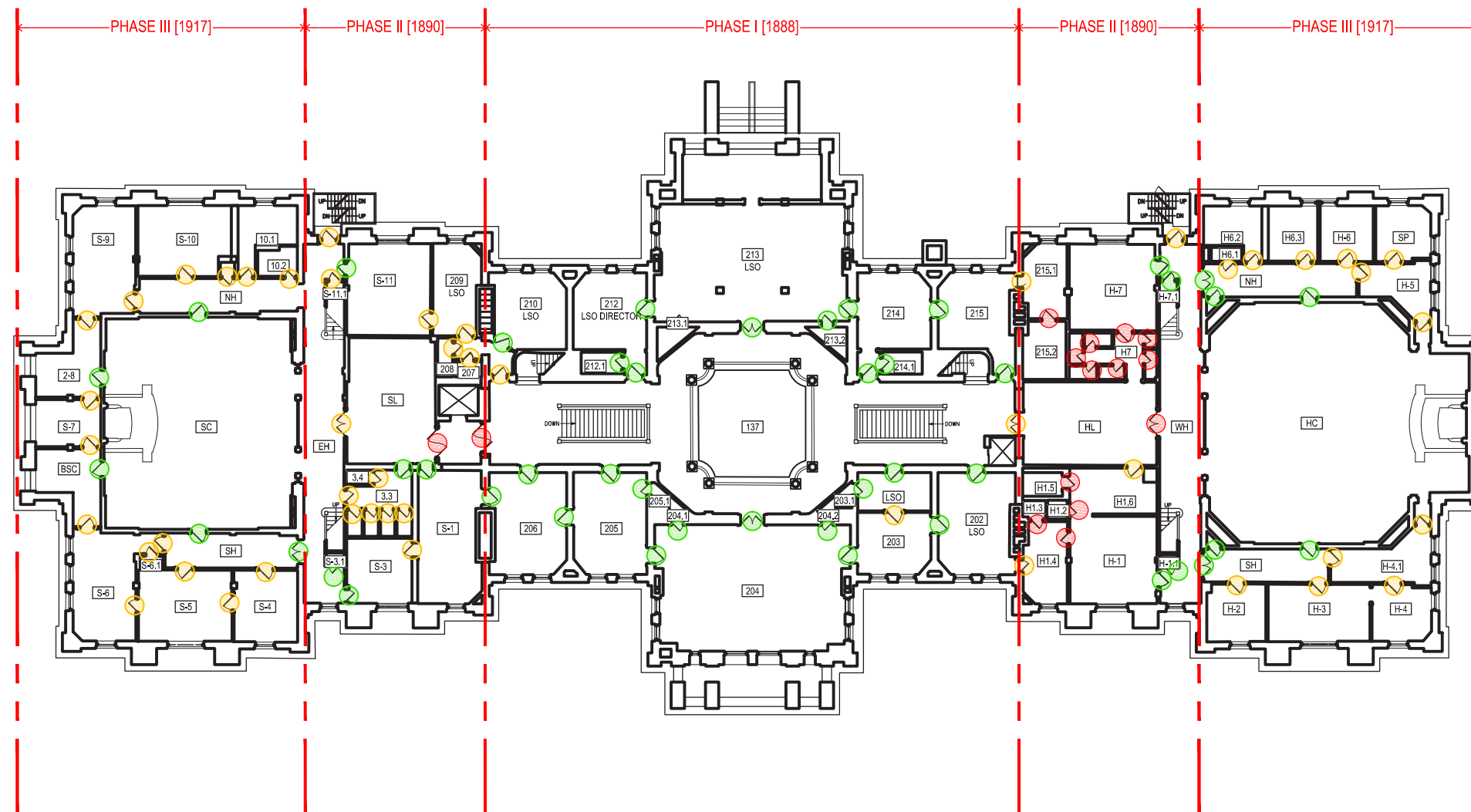


1 FIRST FLOOR PLAN - EXISTING DOOR INVENTORY / PROPOSED USE

- TYPES OF DOORS
- ORIGINAL AND ASSUMED ORIGINAL DOORS TO REMAIN
 - EXISTING DOOR TO POTENTIALLY BE REUSED
 - EXISTING DOOR TO BE REMOVED

Figure 6.5.11.13: Existing Door Inventory / Proposed Use Diagram





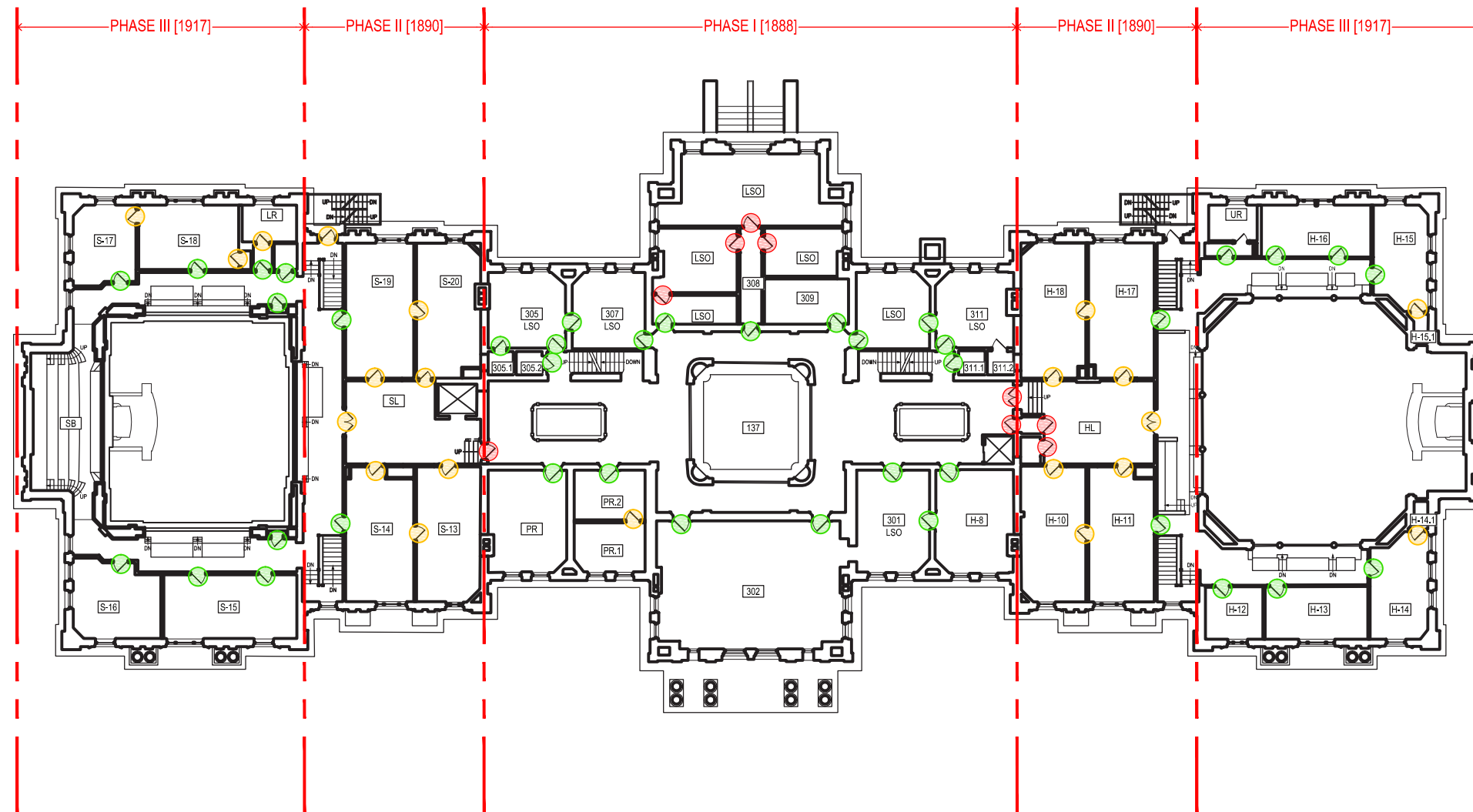
1 SECOND FLOOR PLAN - EXISTING DOOR INVENTORY / PROPOSED USE

0 16'-0" 32'-0" 64'-0"

- TYPES OF DOORS
- ORIGINAL AND ASSUMED ORIGINAL DOORS TO REMAIN
 - EXISTING DOOR TO POTENTIALLY BE REUSED
 - EXISTING DOOR TO BE REMOVED

Figure 6.5.11.14: Existing Door Inventory / Proposed Use Diagram





1 THIRD FLOOR PLAN - EXISTING DOOR INVENTORY / PROPOSED USE

0 16'-0" 32'-0" 64'-0"

TYPES OF DOORS

- ORIGINAL AND ASSUMED ORIGINAL DOORS TO REMAIN
- EXISTING DOOR TO POTENTIALLY BE REUSED
- EXISTING DOOR TO BE REMOVED

Figure 6.5.11.15: Existing Door Inventory / Proposed Use Diagram



6.5.12 SCOPE OF WORK: INTERIOR - ACCOMMODATION OF BUILDING SYSTEMS

Existing Conditions

Building services are not centralized and are outdated (Refer to the **Schematic Design Drawings** and Section 6.6 of this report for a more detailed description of the existing conditions.)

- Bulky fan coil units and associated piping are located in the offices, and some piping is exposed.
- HVAC units in the Garden Level and Attic provide central air conditioning to select areas only; window units serve other areas [Figure 6.5.12.2].
- There are no electrical rooms in the Capitol proper. Panels are randomly located in the building [Figure 6.5.12.1].
- Ceilings are lowered below window heads to accommodate duct work [Figure 6.5.12.3].



Figure 6.5.12.1: Room H-7

Proposed Treatment

Refer to the **Schematic Design Drawings** and Section 6.6 of this report for a more detailed description of proposed treatments.

Major Equipment Accommodation

Garden Level

- Provide four Mechanical Rooms in Garden Level to serve Garden Level and First Floor.
- Provide two Smoke Exhaust Fan Rooms to supply Smoke Exhaust Make-Up Air to Rotunda at Garden Level.

Attic

- Utilize Attic 1 to house mechanical equipment serving the Second and Third floors.
- Utilize Attic 2 to house four smoke exhaust fans to feed smoke vents in roof above.

Systems Distribution

Garden Level

- Horizontal Distribution of Systems:
 - Provide raised access floor and depressed slab at approximately three-fifths of Garden Level.
 - Provide trenches below the level of depressed slab to allow crossovers and accommodate a greater number of ducts and pipes.
 - Provide an approximately six-inch deep space above a new suspended plaster ceiling in offices to accommodate electrical conduit and radiation piping.
 - Provide an approximately ten-inch deep soffit in offices adjacent to the Main Corridor wall to accommodate ductwork and sprinkler piping.
- Vertical Distribution of Systems:
 - Provide new chases at 1888 and 1890 interface to replace existing chases.
 - Provide new chases in new stacked Service Cores.
 - Utilize existing chases within masonry walls of 1888 and 1890 sections.
 - Provide chases in new column enclosures/partitions in 1917 section, for vertical ducts.

First, Second and Third Floors

- Horizontal Distribution of Systems:
 - Provide an approximately six-inch deep space above a new suspended plaster ceiling in offices, Committee Rooms and Service Cores to accommodate electrical conduit, sprinkler piping and exhaust ductwork in Rest Rooms.
 - Provide an approximately ten-inch deep soffit in offices adjacent to the Main Corridor wall.
- Vertical Distribution of Systems:
 - Provide new chases at 1888 and 1890 interface to replace existing chases.
 - Provide new chases in new stacked Service Cores.



Figure 6.5.12.2: Room B36



Figure 6.5.12.3: Room 109



6.5.12 SCOPE OF WORK: INTERIOR - ACCOMMODATION OF BUILDING SYSTEMS (CONTINUED)



Figure 6.5.12.4: Senate Lobby



Figure 6.5.12.5: House Chamber

- Utilize existing chases within masonry walls of 1888 and 1890 sections. Utilize existing chases within masonry wall of 1888 and 1890 sections.
- Provide chases in new column enclosures/partitions in the First and Second Floors 1917 section.
- Provide new chases in partitions between offices surrounding the House and Senate Chambers.
- Utilize existing chases in House and Senate Chambers.



Proposed Treatment

Introduction

The following provides sound isolation criteria for new wall and floor/ceiling assemblies within the Capitol. Example construction assemblies that meet these criteria are provided for preliminary planning and pricing purposes.

1. Sound Isolation

A. Wall Assemblies

Typical wall types are offered below as examples from an acoustical standpoint. Exact specification of wall types will be determined during the building design and will be based on building layout and room configurations.

Wall types are presented in terms of Sound Transmission Class (STC) ratings. This is a single number rating derived by laboratory or in-situ testing of 100Hz to 4000Hz sound transmission through an assembly. In general, the STC rating measures the sound reduction in decibels at a frequency of 500Hz. At higher frequencies (treble), the sound reduction is usually greater than the rating, and less than the rating at low (bass) frequencies. Since speech is typically about 500Hz, the STC rating provides reasonable measure of privacy expected from a given assembly.

Speech availability/intelligibility through variously STC-rated partitions can be expected as follows:

- STC-40: low speech is audible but not intelligible
- STC-45: loud speech is barely audible
- STC-50: shouting is barely audible

Proposed Partition Types

The STC partition ratings provided below have been achieved through a combination of calculation and laboratory testing in a controlled environment, and represent the ratings commonly reported in manufacturer’s and industry literature. Ratings as measured in-situ commonly vary by 5 STC points below the laboratory ratings due to construction tolerances and flanking paths that are not present in the laboratory. This has been factored into the recommendations below.

The following partition construction assemblies are proposed for the Capitol where new partitions are required:

- **Type 1SS1 (STC 49)**
 - one layer of 5/8-inch thick gypsum board, both sides
 - single 3-5/8-inch thick steel stud
 - batt insulation in stud cavity
 - Wall sealed to the structure above.

- **Type 1SS2 (STC 53)**
 - one layer 5/8” thick gypsum board one side
 - single 3-5/8 inch steel stud
 - two layers 5/8” thick gypsum board on opposite side
 - batt insulation in the stud cavity.
 - Wall sealed to the structure above
 - Equivalent to 6” CMU.
- **Type 2SS2 (STC 56)**
 - two layers of 5/8-inch thick gypsum board both sides
 - single 3-5/8-inch thick steel stud
 - batt insulation in the stud cavity
 - Wall sealed to the structure above
 - Equivalent to 8” CMU.
- **Type SHAFT (STC 53)**
 - no less than 1” gypsum shaft liner panel
 - 2 layers ½” Firecode C drywall on both sides
 - RC-1 resilient channels on 4” wide 25 gauge steel C-H studs
 - 3” mineral wool insulation in cavities.
 - Wall sealed to structure above
 - Construction should meet 2-hr rating per UL-415, System F
 - Shall be utilized for all mechanical and electrical shafts.

Insulation

Mineral wool insulation shall be provided in all stud cavities. Basis of Design: Roxul Acoustical Fire Batt Insulation (AFB), or equivalent. Provide in 3” thickness for 3-5/8” steel studs.

Interior Glazed Partitions

- Where provided, they shall be minimum STC-36, with 1/2” laminated safety glass.
- Where privacy is crucial, glazing should be no more than 15% of the total wall area.



6.5.13 SCOPE OF WORK: ACOUSTICAL TREATMENT OF SPACES (CONTINUED)

Wall Assembly Criteria

Walls between adjacent spaces shall meet the minimum STC requirements presented below:

Space Adjacency		STC Rating	Example Wall Type
Garden Level			
Office/Conference Room	Corridor	49	1SS1
Office/Conference Room	Office	53	1SS2
First Floor			
Governor Office	Lobby/Reception	53	1SS2
Governor Office	Governor Conference	56	2SS2
Governor Conference	Corridor	53	1SS2
Offices	Reception or Corridor	49	1SS1
Offices	Offices/Open Workstations	53	1SS2
Conference Rooms	Corridors	49	1SS1
Conference Rooms	Offices/Open Workstations	53	1SS2
Counsel Offices	Offices	53	1SS2
Counsel Offices	Corridor	49	1SS1
Second and Third Floors			
Leadership/Attorney Offices	All adjacencies	53	1SS2
Conference Rooms	All adjacencies	53	1SS2
Member Break Room	Member Meeting Room	53	1SS2
House/Senate Reception	Copy and Work Rooms	53	1SS2

Notes: Ratings above are independent of doors and glazing.

B. Doors and Interior Glazing

Garden Level Mechanical Rooms (Doors B11, B16, B41, B46)

- Provide full perimeter sound seals on existing doors, such as Zero International (Bronx NY) Model 770 (head and jamb) and Model 369 (door bottom) or equivalent by Reese or Pemko
- Provide a secondary 1-3/4” solid wood or insulated steel door and frame between corridor door and mechanical space proper with full perimeter sound seals and 1’ black mat faced insulation on inside face (Owens Corning Select Sound Board Insulation, or equivalent).

At locations of new doors in occupied spaces:

- Minimum 1-3/4” thick solid stave core/STC-32 minimum
- Full perimeter gasketing (integral component of door assembly by manufacturer or from third-party supplier)/STC-35 minimum at doors into:
 - Governor’s Offices
 - Governor’s Conference Rooms
 - Legislative leadership offices
 - Counsel offices
 - Conference Rooms
- Glass lites in doors to be minimum 1/2” laminated safety glass/STC-36 minimum.
- Provide sound gasketing at door and frame of all glazed doors



6.5.13 SCOPE OF WORK: ACOUSTICAL TREATMENT OF SPACES (CONTINUED)

C. Floor/Ceiling Assemblies

Floor and ceiling assemblies, particularly where critical offices, meeting rooms, and committee rooms are vertically aligned, should achieve a minimum STC-50, and minimum Impact Isolation Class (IIC) rating of 50, both regarded as standards by the International Building Code. IIC is a similar measure to STC, but describes the isolation provided by the assembly from structure borne noises produced by footfall, movement of furniture, and the like. Typically, carpet floor coverings will provide IIC ratings well above the minimum requirement.

Further investigative studies, including acoustical testing, may be required in specific areas to establish the current isolation performance of existing floor/ceiling constructions.

D. Acoustical Testing Of Existing Assemblies

Where existing assemblies will remain, particularly between the Attic Level and House and Senate Chambers and between Garden Level Mechanical Rooms and adjacent spaces and corridors, sound testing is recommended to establish baseline sound isolation performance, and to determine if additional constructions are required. For example, 2” gypsum plaster on lath achieves approximately STC-40 (calculated), with about 30 dB of noise reduction at low frequencies. This may be acceptable isolation for the proposed new mechanical units, so it is important to understand whether the existing construction is underperforming or exceeding this benchmark.

2. Room Acoustics

Interior Acoustical Finishes

Ceilings:

Sound absorbing ceilings, minimum NRC 0.85, are recommended over a minimum of 70% of the ceiling area within the following spaces:

- Conference Rooms, particularly those where video teleconference technologies will be employed.
- Committee Rooms
- Governor’s Office
- Private Legislative Leadership Offices
- Senate and House Chambers (in select coffered areas above gallery areas).

Sound absorbing plaster systems are recommended, as they are compatible with the design intent and can provide proper acoustical properties, such as:

- “Even Better” acoustical plaster system by Fellert, 25mm thickness, silk finish or as specified.
- Baswaphon fine or classic fine finish, 40mm thickness.
- Star Silent Atec Alumi system 1” thickness with “superfine” finish or as specified.

These systems consist of a sound absorbing substrate - either mineral wool, fiberglass or compressed glass bead - and proprietary troweled plaster systems. Plasters can be pigmented to match historic colors if required.

Sound absorbing ceilings, minimum NRC 0.65, are recommended over open workstation areas if it can be achieved in a manner compatible with interior design intent.

Flooring:

Carpeted floor coverings with a jute or rubber underpad are recommended for improved impact noise reduction in:

- offices
- conference rooms (including Ceremonial Conference Room)
- committee rooms
- House and Senate Chamber floor and gallery areas.

Walls:

Four Garden Level Mechanical Rooms

- 1” thick black tissue faced duct liner, or Owens Corning Select Sound Acoustic Board insulation on all walls from 3’-0” from structural floor up to ceiling.

Committee Rooms

- Sound absorbing finishes to provide minimum NRC = 0.75, to improve speech intelligibility and reduce reverberation, such as:
 - i. draperies
 - ii. acoustical plaster systems
 - iii. stretched fabric systems such as “Whisper Wall” or “Novawall” with 1” to 2” fiberglass core behind the fabric
 - iv. other solutions compatible with design intent to be discussed in Design Development

Conference Rooms with video teleconferencing capabilities:

- Sound absorbing finishes to provide minimum NRC = 0.75 on minimum 40% of wall area 3’-0” above floor to reduce liveness within the room that can lead to poor speech intelligibility such as:
 - i. draperies
 - ii. acoustical plaster systems
 - iii. stretched fabric systems such as “Whisper Wall” or “Novawall” with 1” to 2” fiberglass core behind the fabric
 - iv. other solutions compatible with design intent to be discussed in Design Development

House and Senate Chambers

Further investigative study while visiting the Capitol is required to determine if additional sound absorbing treatments are advised

beyond the ceiling and floor finishes described above. While it is vital to stay true to the nature and extent of restoration planned, it is also important to provide an acoustical environment optimal for communication using natural and technological means. In these rooms much care is to be taken with selection of materials to achieve esthetic and acoustic requirements.



6.5.14 SCOPE OF WORK: INTERIOR AND EXTERIOR BUILDING LIGHTING

Existing Conditions

Building Lighting History

Existing lighting conditions correlate with their construction periods. Where more recent work has occurred, e.g, 1980, lighting levels are much too great with correspondingly significant glare. In public circulation areas in the 1888 and 1890 Phases, decorative lighting equipment from 1917 is mixed with some recessed equipment from the 1980s creating a disparate appearance. While some of the decorative lighting equipment from 1917 remains intact, its physical, mechanical, and electrical integrity is highly suspect. Indeed, some luminaires exhibit damaged globes or globes swapped-out with non-original versions – still remarkable for hundred-year-old equipment. In many areas, however, 1917 luminaires have been replaced with mid-20th century equipment inappropriate to corporate facilities let alone a building of such significance, prominence, and historic character and quality as a National Historic Landmark.

Existing Light Levels

Light levels throughout are either too little or too great. Additionally, some circulation areas are not in compliance with current codes. For example, minimum illuminances in some corridors and stairs are below 1 footcandle and elevator thresholds are below 10 footcandles.

Existing Light Quality

Lighting quality, in terms of brightness patterns, color of light, and color rendering properties, is inconsistent and generally below both restoration and commercial standards. For example, the architectural design and quality of materials and craftsmanship are not well-rendered under the current lighting conditions [Figure 6.5.14.1].

Existing Lighting Controls

Existing lighting operates on 120V. Existing controls throughout are simple circuit breaker operations, local switches, and in the chambers, ETC Unison Preset Scene Controls. The circuit-breaker and local-switch strategies are not consistent with current practices for safety and energy use. The ETC Unison controls do not meet the control requirements for LED lighting.

Proposed Treatment

Criteria

Lighting should be relevant to the 1917 period in interior and exterior areas of the building scheduled for historic preservation and restoration. It should produce light levels appropriate to code standards and an interpretive sense of history. Brightness patterns and intensities should be sensitive to the architecture of spaces, finishes of materials, and comfort of occupants. Color of light and color rendering should enhance finishes of materials and occupants’ skin tones and clothing colors. These criteria guide the recommendations which follow.

Review of Existing Conditions

In general, and prior to commencement of any work, all interior and exterior lighting equipment now in place should be checked for hazardous materials and dealt with accordingly. Additionally, a walk-through of the building and site by the Construction Manager with the Architect and Lighting Designer should occur to confirm and physically mark existing lighting equipment worthy of salvage for use in the restoration and renovation of the Capitol.

Period of Significance

An itemized list of luminaires in a 1916 purchase agreement from the Beardslee Chandelier Manufacturing Co. addressed to the Wyoming State Capitol Building Commission appears to be a complete inventory of what might have been procured. This, along with the extant luminaires from the 1917-era and Beardslee catalogs ca. 1905, 1915, and 1925 as reference, provide a sufficient picture, though not exact and complete, of the kinds and proposed use applications of luminaires likely procured and installed in 1917. These historical documents provide guidance on styling, sizing and proportions, shades and globes, finishes, and use applications for the period luminaires. Historic lighting will be achieved by restoring existing 1917 luminaires, replicating existing 1917 luminaires as needed to meet quantity requirements, and re-creating 1917-era luminaires as needed to meet the various space type and function requirements where no extant luminaires remain.

Lamping

The kinds of lamps used in these period luminaires will establish light output, energy use/efficiency, and visual and color qualities. In the last few years, light emitting diodes (LEDs) have usurped traditional light sources. Incandescent and halogen lamps are unsustainable – inefficient and short-lived – to be credible alternatives. Indeed, many of these are now being withdrawn from the market, if not legislated out of existence. Fluorescent and ceramic metal halide lamps, while certainly much more efficient than incandescent, are also a challenge to sustainability with relatively short lives and mercury content. Ceramic metal halide lamps are also challenged with start-up times of more than a few minutes, making these inappropriate in emergency situations or where light is desired instantaneously.

Proposed Treatment Summary

Lighting

Scope of work in historic spaces:

- Restore 1917 existing extant luminaires
- Replicate 1917 luminaires from existing as needed
- Re-create 1917 luminaires from historic documentation as needed

Scope of work in traditional and transitional spaces:

- Use modern techniques and luminaires relevant to architectural treatments and space functions and befitting a landmark

Scope of work in back-of-house spaces:

- Use modern utility luminaires relevant to space functions

Scope for Extant Historic Luminaires to be Restored

- Clean
- Refinish metalwork as necessary
- Lamp with dedicated LEDs
- Re-wire/UL/NRTL
- Repair metal and glass components as necessary

Scope for Extant Historic Luminaires to be Replicated

Where extant luminiare counts are insufficient to meet lighting layout and level requirements:

- Use extant luminaires as patterns to replicate
- Finish new metalwork as necessary to match extant luminaires
- Lamp with dedicated LEDs
- Wire/UL/NRTL



6.5.14 SCOPE OF WORK: INTERIOR AND EXTERIOR BUILDING LIGHTING (CONTINUED)

Proposed Treatment Summary (Continued)

Scope for Historic Luminaires to be Re-created

Various types where no extant luminaires exist:

- Re-create patterns from historic luminaire documents
- Finish metalwork to match restored and replicated luminaires
- Lamp with dedicated LEDs
- Wire/UL/NRTL

Scope for Modern Luminaires

Various types for modern renovated areas and utility spaces:

- Clean, simple lines
- Lamp with dedicated LEDs
- Wire/UL/NRTL

LEDs promise to address the shortcomings of traditional lamps. Since LEDs are relatively new, especially to historic restoration and renovation projects in historic luminaires, their use here should be contingent on proof-of-concept testing and photometric testing that has been recommended prior to the writing of final project lighting specifications.

LED lamps for interior lighting, regardless of application, should exhibit color temperatures of “crisp warm white” or 3000K with color rendering of 80 to 90. Achievement of this goal is pending the outcome of the recommended proof-of-concept testing and the photometric testing. On exterior lighting, LED lamps should exhibit color temperature of “warm white” or 2700K with color rendering of 80 or greater for a softer and more nighttime circadian-appropriate quality. Most LED lamps are warranted for five years, when designed into luminaires exhibiting LED-vendor-approved venting and heat sinking. Similarly, LED drivers are typically warranted for five years.

Preliminary Layouts/Calculations

To meet lighting criteria outlined in the **Level I-II Report**, guesstimated photometry for historic luminaires was used to develop preliminary lighting layouts and establish LED lamp lumen packages and wattages. Predictive calculations used to establish layouts for this exercise follow [Figure 6.5.14.2 to Figure 6.5.14.16].

The quantities and locations of interior luminaires should be based on the 1917 precedent. However, without complete reflected ceiling and lighting plans from this period, only the locations of extant luminaires remain as guidance. Even these locations may have changed in renovations subsequent to 1917. Additionally, locations should respect the spatial architecture, introducing brightness patterns which are symmetrically placed and visually sympathetic to the time-period of the spaces. More critically, lighting layouts should be based on code and modern-day expectations and criteria.

Facade lighting will emphasize the entire facade. In-grade uplights will wash the lower facade and create a silhouette backdrop against which any motion can be readily detected. This lighting front-lights people within 8 feet of the facade face, windows or doors for identification from live or remote surveillance. Key upper facade and dome features will be accented to develop a dimensional and visually arresting focus. Very warm white LEDs will complement the building stone and gold dome.

Lighting Controls

On/off controls are recommended for all but Committee Rooms, House and Senate Chambers, and key spaces in the Governor’s Suite. Office spaces with multiple luminaires should be fitted with two switches for two-level control. For example, the luminaire(s) nearest windows should be separately switched from the remainder of the luminaires. The exterior pedestrian postlights and illuminated handrails should be on a dimming system that enables lighting to be dimmed to about 30% of full at some predetermined curfew time with motion-sensor



6.5.14 SCOPE OF WORK: INTERIOR AND EXTERIOR BUILDING LIGHTING (CONTINUED)



Figure 6.5.14.1: The existing facade and dome lighting introduce an unflattering wash of poor-color cold light.

overrides to brighten lights when occupancy is sensed. This will offer an improved sense of safety for nighttime visitors while providing a visual alert for live or remote surveillance of activity.

Committee Rooms, House and Senate Chambers, and key spaces in the Governor’s Suite should be controlled by preset scene dimming controls. Recommended preset scenes for these interior spaces are ON, AV, BREAK, OFF. Additional scenes could be available, though this complicates the keypad arrangement and increases decision time. These scenes would be available from discreet single-gang keypads or switch plates.

All lighting circuits will be served at 120V via Lighting Control Panels located on each floor, east and west, to meet code and current practice addressing user-controllability and energy use. The lighting control panels will incorporate on/off and/or dimming controls on a per circuit basis to control all circuits in the building. The Lighting Control Panels will be networked together and interfaced with the Building Management system for central programmed, automatic and manual control. Control keypads and occupancy sensors located in individual rooms will be connected to the Lighting Control Panels via low voltage control wiring in a dedicated conduit system and will control individual circuits and zones for dimming and on/off control.

The Lighting Control System and components are recommended to be manufactured by Lutron or ETC. The Lighting Control System will be capable of controlling LED lamps and drivers using on/off, 0-10V, and DMX512 control protocols. The existing ETC control systems in the chambers are incompatible with LED lamps and drivers and must be replaced. The entire Lighting Control System will be programmed and tested by a manufacturer’s approved technician and fully commissioned. Training will be provided to the Owner.

Controls could help reduce the lighting power density from 1.5W/sf (the anticipated lighting load based on current planning) to an effective 1.0W/sf (as lights are dimmed for certain functions and switched off based on occupancy).

Schematic Design Package

Schematic Design Lighting Drawings and a Luminaire Schedule are issued as part of this Schematic Design effort. Plans are a snapshot of tentative luminaire types and their locations. Rough quantities are identified as “Unverified SD Guess” in the luminaire schedule sheets. The Luminaire Schedule also identifies proposed physical and aesthetic qualities which should be sufficient for budgeting from the manufacturers cited. As the design is refined and the proof-of-concept and photometric testing advance, luminaires, lamping, layouts, and quantities may change.

A complete specification front-end was included in the Proof-of-concept Test request.

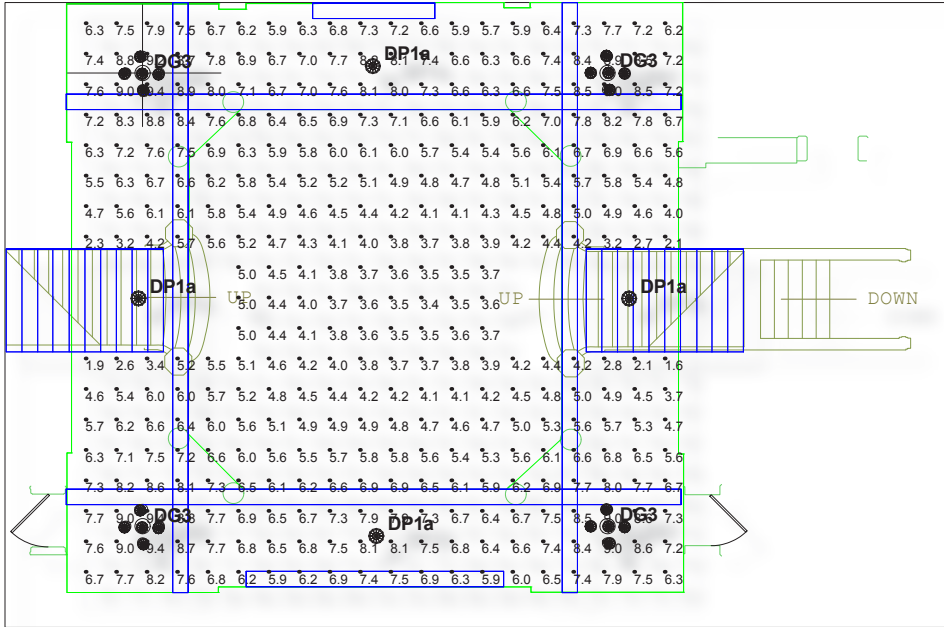
WYSC/13712
Cheyenne, Wyoming

Lighting Determination for 1st Floor Rotunda

Reflectances: C = 0.6, W = 0.4, F = 0.2

Gary Steffy Lighting Design Inc./BSS
Ann Arbor, Michigan
August 8, 2014

Filename: GSLD13712_1stFloorRotunda_LCL_01_20140808v2.AGI
Page 1 of 1



Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
1st Floor Rotunda_Floor	Illuminance	Fc	6.02	9.4	1.6	3.76	5.88

Luminaire Schedule				
Qty	Label	Description	Filename	LLF
4	DP1a	CD-7906	18_Schoolhouse_2-42s.ies	0.736
4	DG3	CD-7906	N.A.	0.736

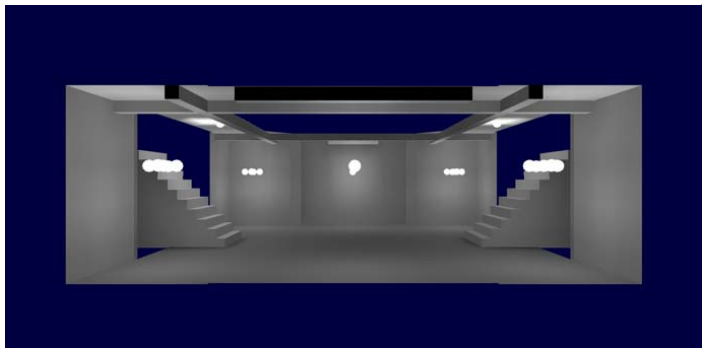


Figure 6.5.14.2: Lighting Calculation: First Floor Rotunda

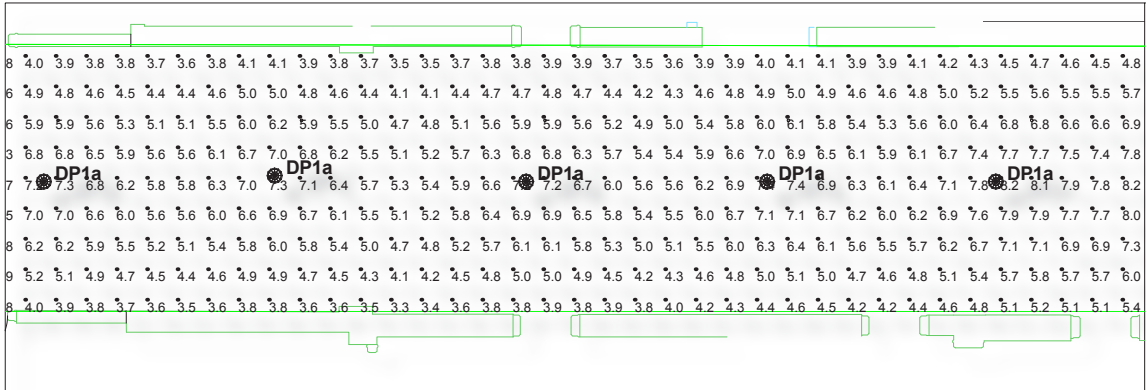
WYSC/13712
Cheyenne, Wyoming

Lighting Determination for 1st Floor Corridor

Reflectances: C = 0.6, W = 0.4, F = 0.2

Gary Steffy Lighting Design Inc./BSS
Ann Arbor, Michigan
August 8, 2014

Filename: GSLD13712_1stFloorWestCorridor_LCL_01_20140808v2.AGI
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Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
1st Floor Corridor_Floor	Illuminance	Fc	5.59	9.0	2.9	1.93	3.10

Luminaire Schedule				
Qty	Label	Description	Filename	LLF
9	DP1a	CD-7906	18_Schoolhouse_2-42s.ies	0.736

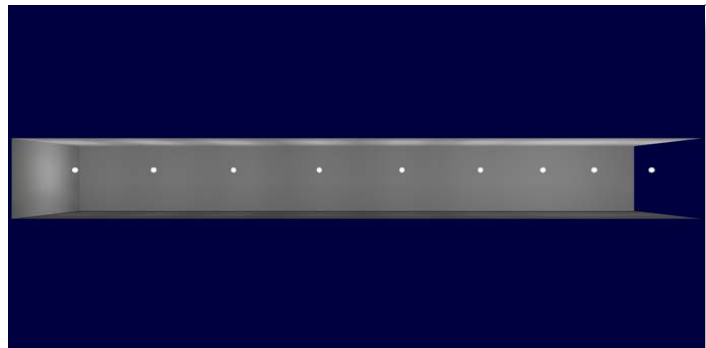


Figure 6.5.14.3: Lighting Calculation: First Floor West Corridor



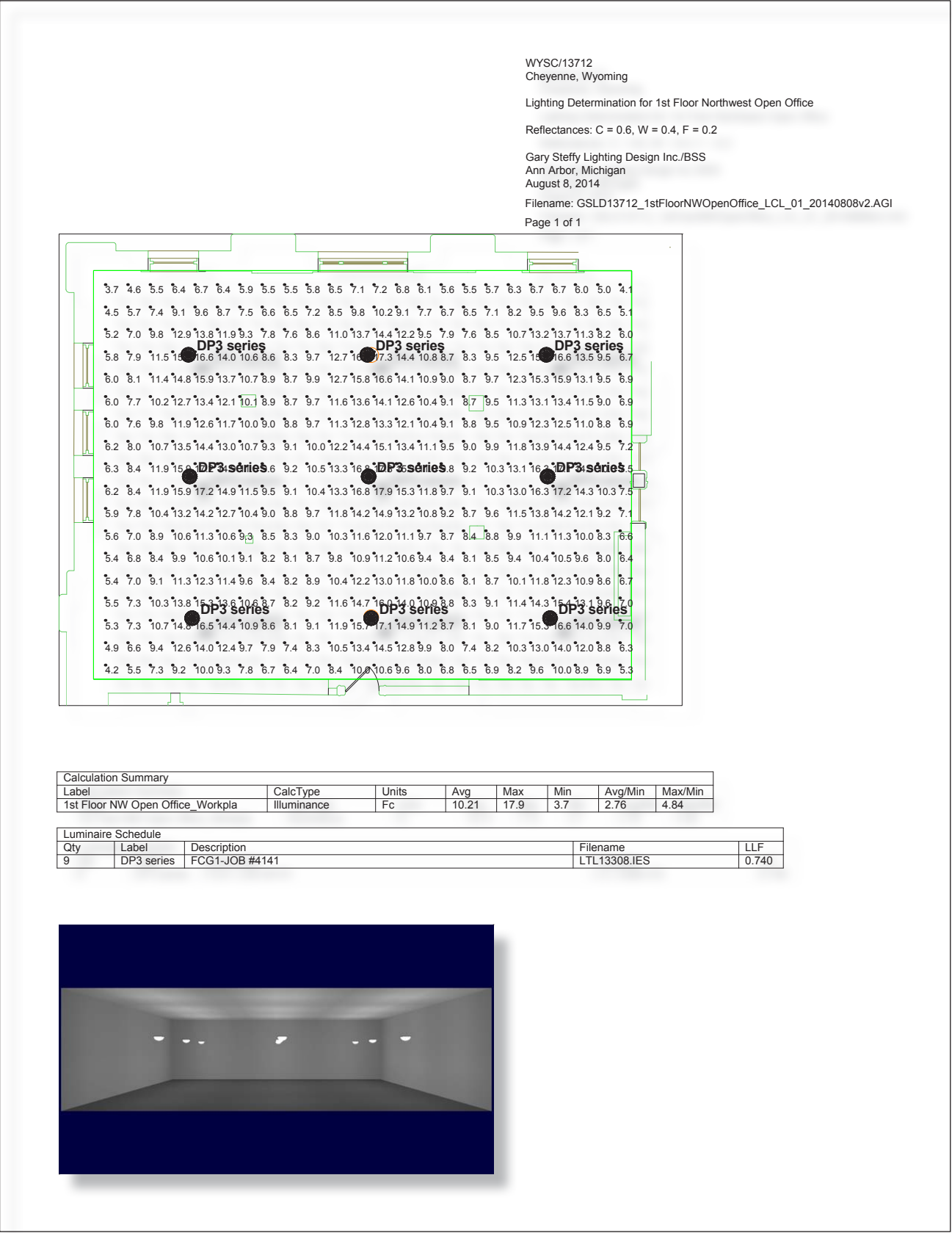


Figure 6.5.14.4: Lighting Calculation: Typical Open Office Areas with Work Stations

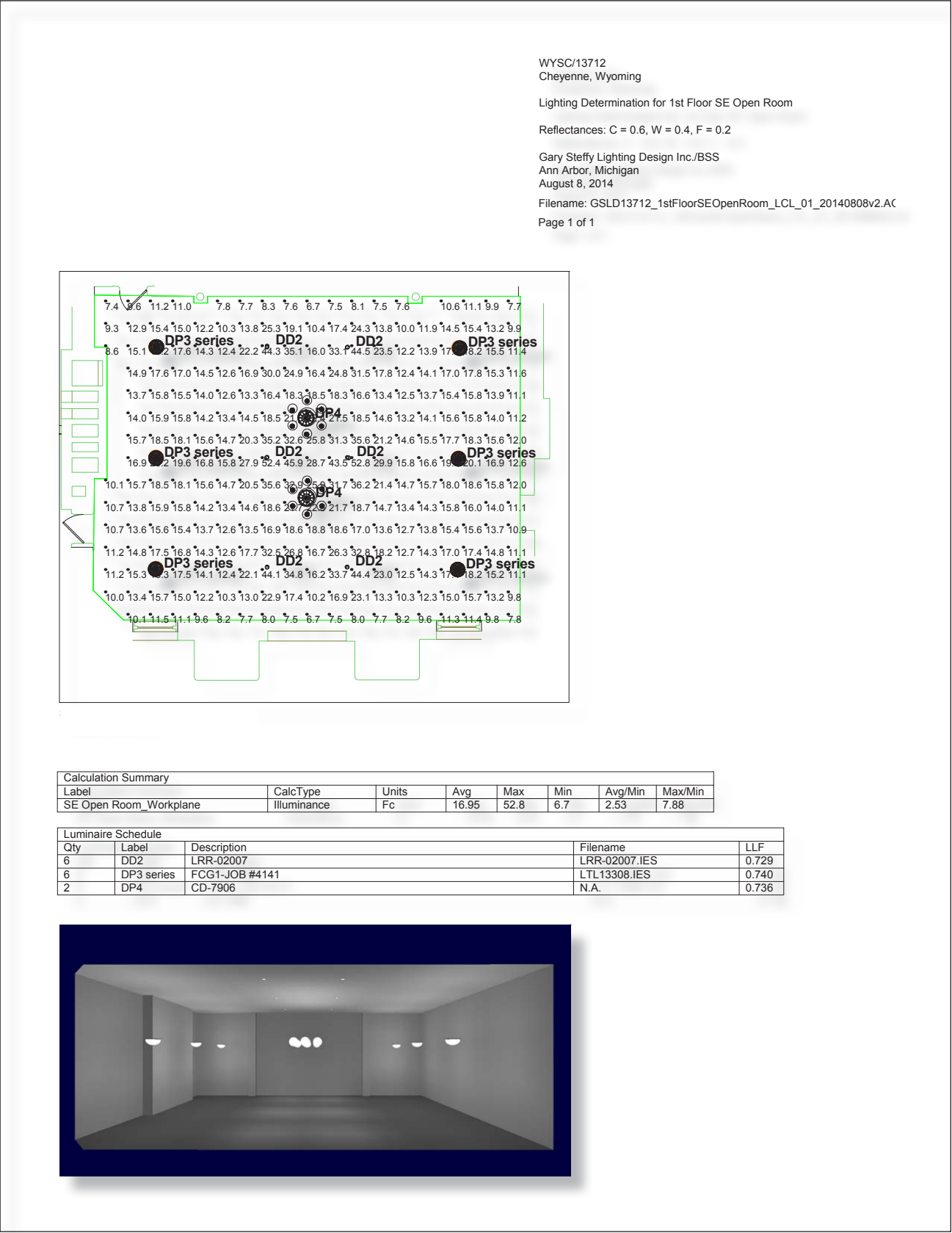


Figure 6.5.14.5: Lighting Calculation: First Floor Governor's Ceremonial Conference Room (partial plan)



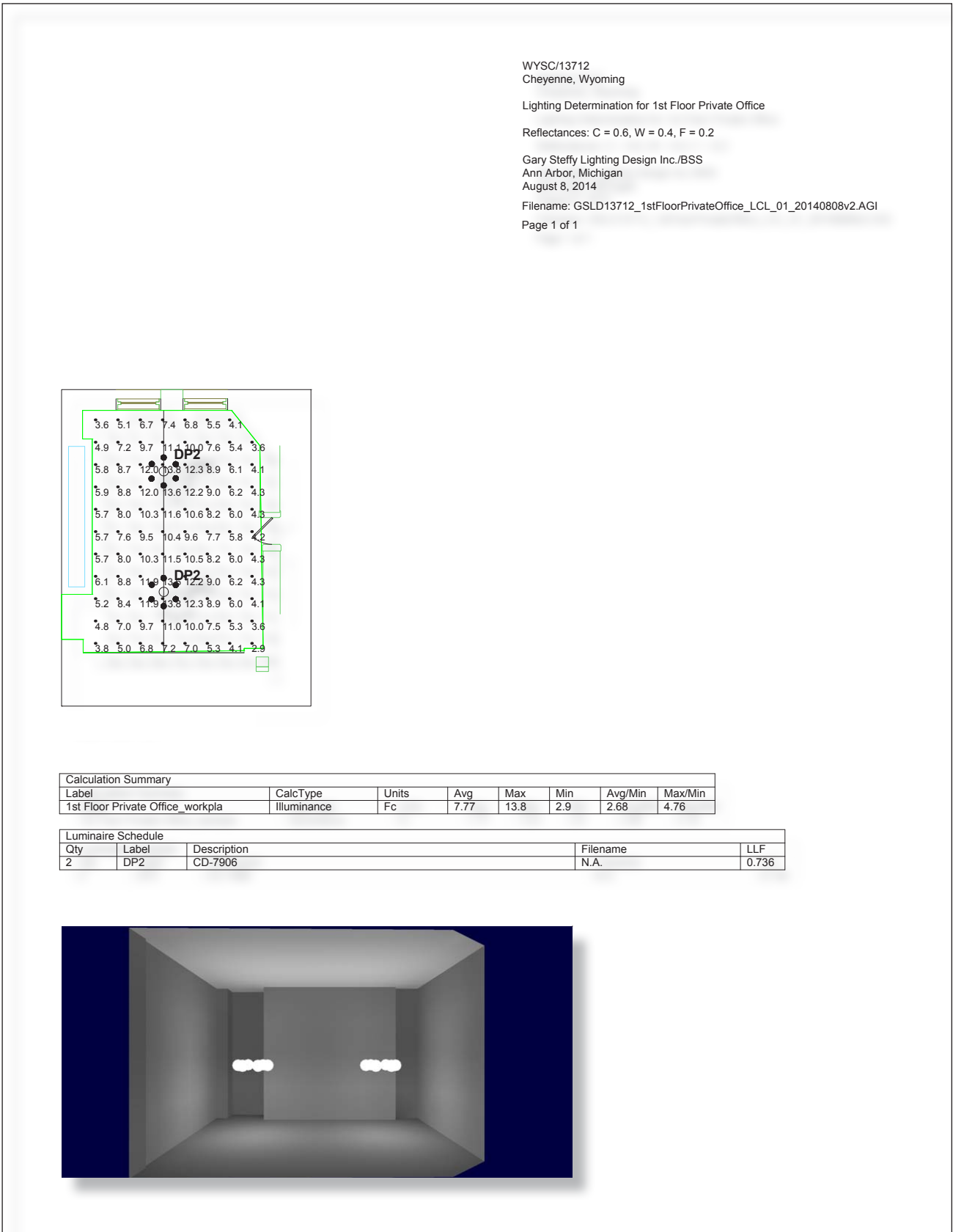


Figure 6.5.14.6: Lighting Calculation: First Floor Private Office

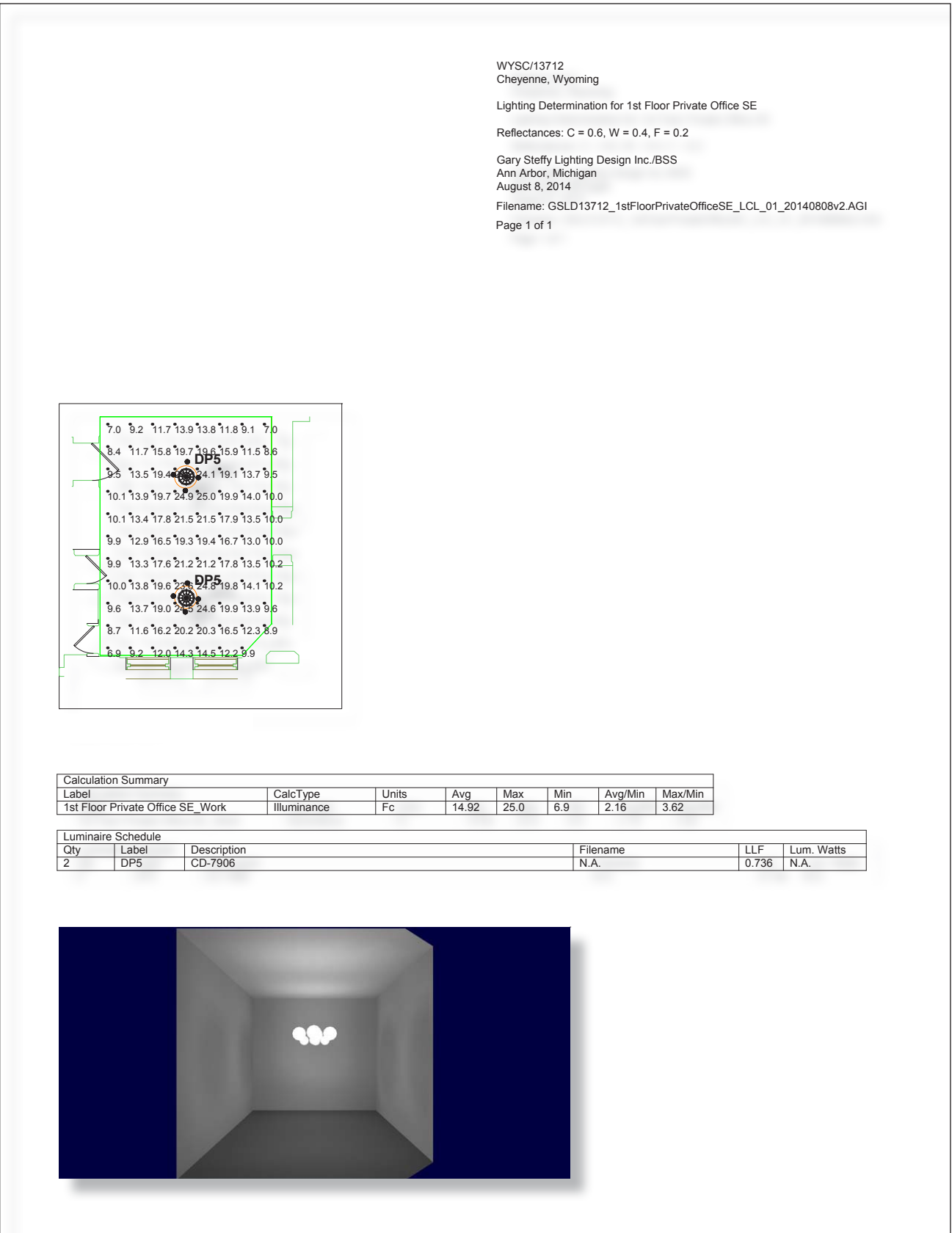
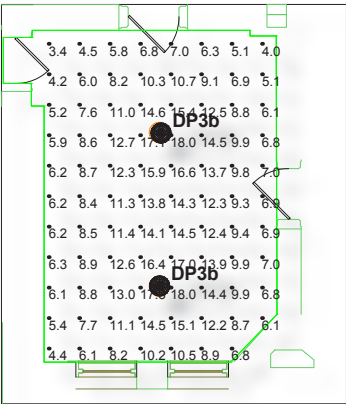


Figure 6.5.14.7: Lighting Calculation: First Floor SE Private Office



WYSC/13712
Cheyenne, Wyoming

Lighting Determination for 1st Floor Private Office-South

Reflectances: C = 0.6, W = 0.4, F = 0.2

Gary Steffy Lighting Design Inc./BSS
Ann Arbor, Michigan
August 8, 2014

Filename: GSLD13712_1stFloorPrivateOfficeSouth_LCL_01_20140808v2

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Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
1st Floor Private office South_1	Illuminance	Fc	9.84	18.0	3.4	2.89	5.29

Luminaire Schedule				
Qty	Label	Description	Filename	LLF
2	DP3b	FCG1-JOB #4141	LTL13308.IES	0.740

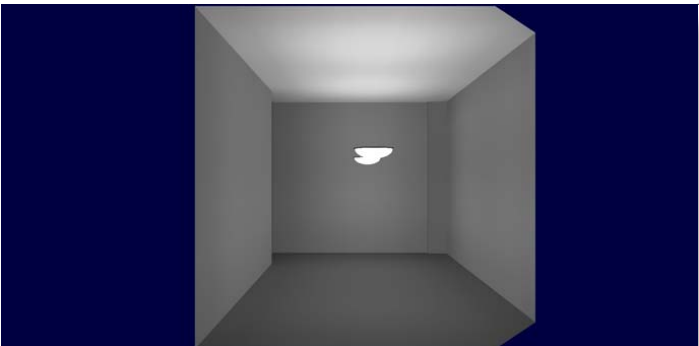
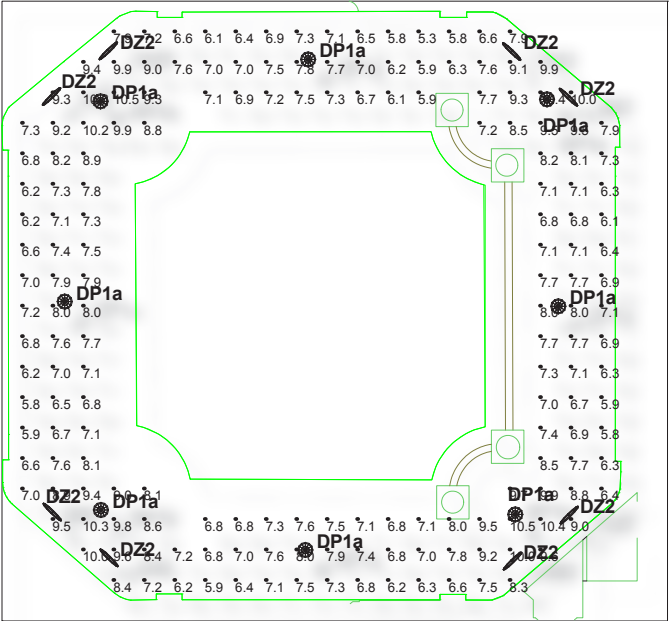


Figure 6.5.14.8: Lighting Calculation: First Floor South Private Office



WYSC/13712
Cheyenne, Wyoming

Lighting Determination for 2nd Floor Rotunda

Reflectances: C = 0.6, W = 0.4, F = 0.2

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Ann Arbor, Michigan
August 8, 2014

Filename: GSLD13712_2ndFloorRotunda_LCL_01_20140808v2.AGI

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Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Rotunda 2nd Floor_Floor	Illuminance	Fc	7.63	10.6	5.3	1.44	2.00

Luminaire Schedule				
Qty	Label	Description	Filename	LLF
8	DZ2	PL-LED15 A092513	PL-LED15.IES	0.920
8	DP1a	CD-7906	18_Schoolhouse_2-42s.ies	0.736

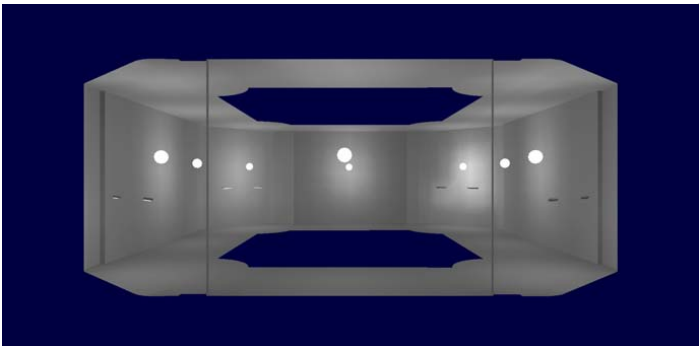


Figure 6.5.14.9: Lighting Calculation: Second Floor Rotunda



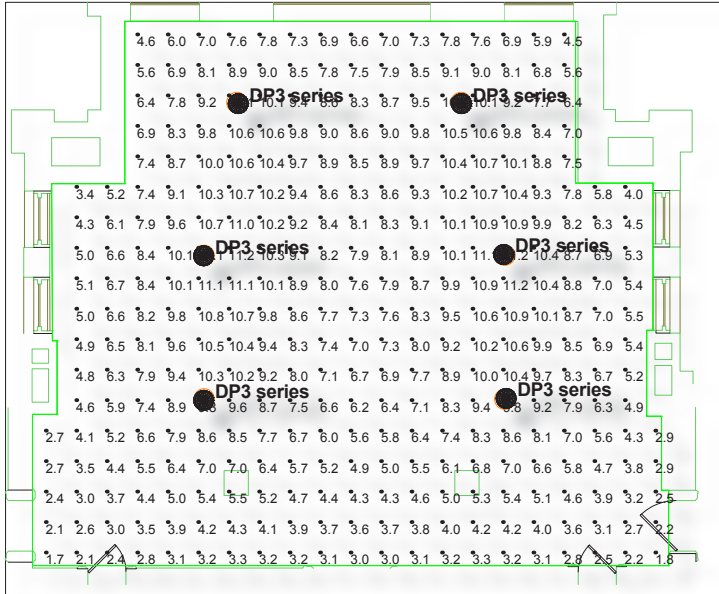
WYSC/13712
Cheyenne, Wyoming

Lighting Determination for 2nd Floor North Center Open Room

Reflectances: C = 0.6, W = 0.4, F = 0.2

Gary Steffy Lighting Design Inc./BSS
Ann Arbor, Michigan
August 8, 2014

Filename: GSLD13712_2ndFloorNorthCenter_LCL_01_20140808v2.A
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Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
2nd Floor North Center Room_Floor	Illuminance	Fc	7.16	11.2	1.7	4.21	6.59

Luminaire Schedule				
Qty	Label	Description	Filename	LLF
6	DP3 series	FCG1-JOB #4141	LTL13308.IES	0.740

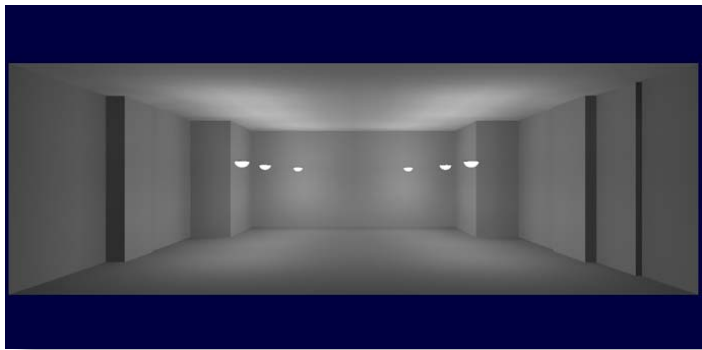


Figure 6.5.14.10: Lighting Calculation: Second Floor North Center Committee Room

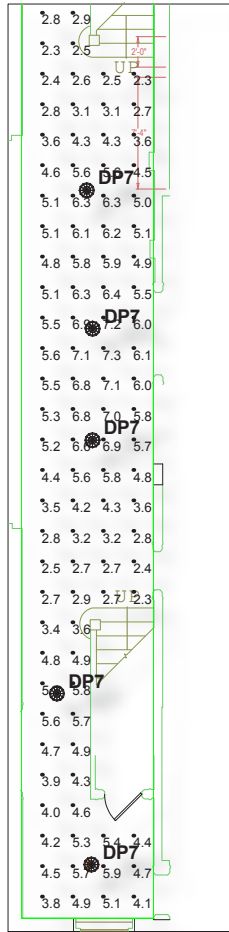
WYSC/13712
Cheyenne, Wyoming

Lighting Determination for 2nd Floor Senate Corridor

Reflectances: C = 0.6, W = 0.4, F = 0.2

Gary Steffy Lighting Design Inc./BSS
Ann Arbor, Michigan
August 8, 2014

Filename: GSLD13712_2ndFloorSenateCorridor_LCL_01_20140808v2.A
Page 1 of 1



Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Senate Corridor_Floor	Illuminance	Fc	4.85	7.3	2.3	2.11	3.17

Luminaire Schedule				
Qty	Label	Description	Filename	LLF
7	DP7	CD-7906	18_Schoolhouse_2-42s.ies	0.736

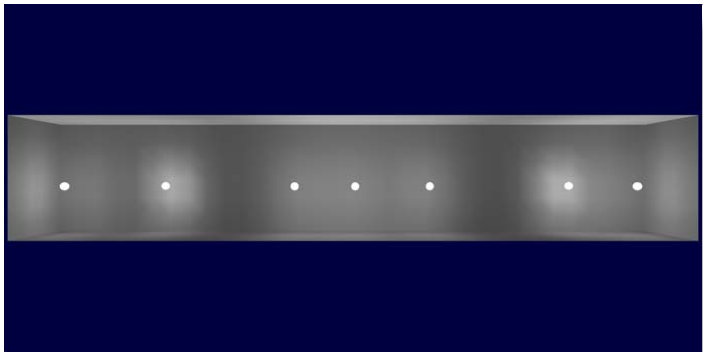
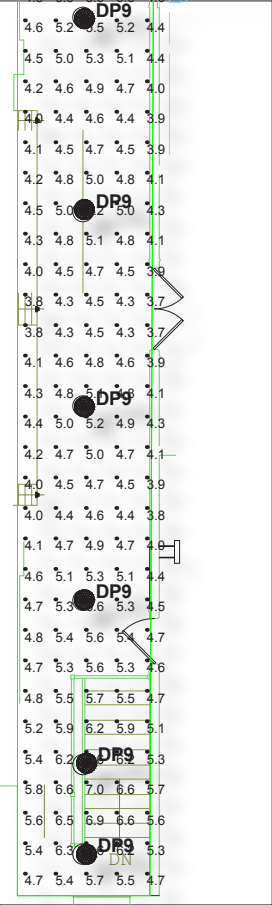


Figure 6.5.14.11: Lighting Calculation: Second Floor Senate Corridor





WYSC/13712
Cheyenne, Wyoming

Lighting Determination for 3rd Floor Senate Corridor

Reflectances: C = 0.6, W = 0.4, F = 0.2

Gary Steffy Lighting Design Inc./BSS
Ann Arbor, Michigan
August 8, 2014

Filename: GSLD13712_3rdFloorSenateCorridor_LCL_01_20140808v2.r
Page 1 of 1

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Senate 3rd Floor Corridor_Floor	Illuminance	Fc	5.07	7.1	3.7	1.37	1.92

Luminaire Schedule				
Qty	Label	Description	Filename	LLF
8	DP9	FCG1-JOB #4141	LTL13308.IES	0.740

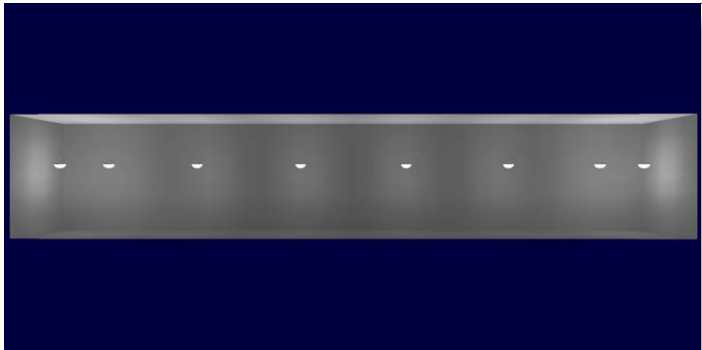


Figure 6.5.14.12: Lighting Calculation: Third Floor Senate Lobby Gallery



WYSC/13712
New Orleans, Louisiana

Lighting Determination for House Chamber

Reflectances: C = 0.7, W = 0.6, F = 0.15

Gary Steffy Lighting Design Inc./BSS
Ann Arbor, Michigan
April 30, 2014

Filename: GSLD13712_HouseElectricLighting_LCL_01_20140430.AGI
Page 1 of 2

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
Chamber Floor	Illuminance	Fc	16.22	18.1	12.0	1.35
Chamber Workplane	Illuminance	Fc	17.83	19.8	13.8	1.29
Podium	Illuminance	Fc	8.10	10.0	6.5	1.25

Luminaire Schedule				
Qty	Label	Description	Filename	LLF
48	DA3	Desire (PAR)	D60 Studio HD L25_LM63200	0.740
4	DP10 Bowl	FCG1-JOB #4141	Copy_Copy_DP10.ies	0.740
32	DP10 uplight	CK 27K covemx powercore	eWCoveMXPowercore_1ft_270	0.644
32	DP10_Globe	CD-7906	18_Schoolhouse_2-42s.ies	0.740

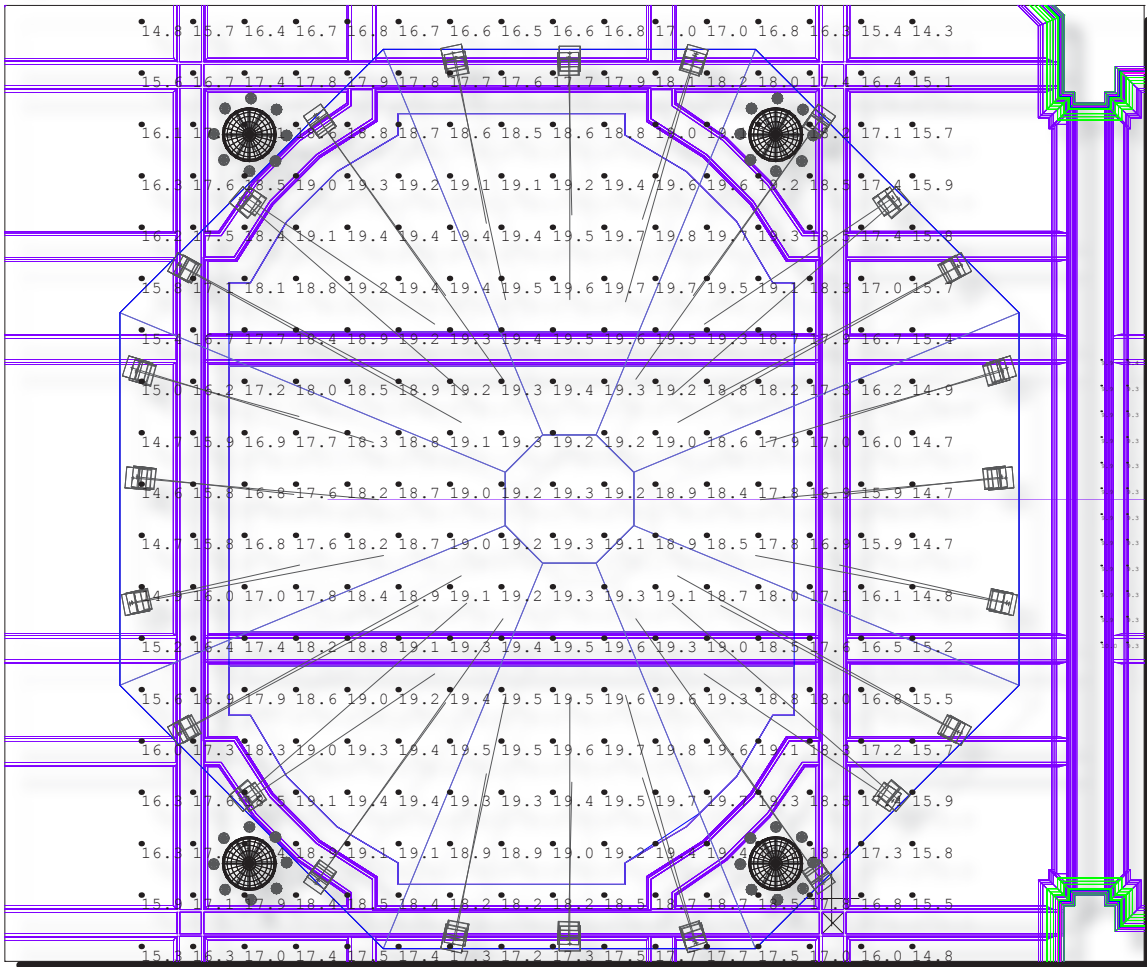


Figure 6.5.14.13: Lighting Calculation: House Chamber

WYSC/13712
New Orleans, Louisiana

Lighting Determination for House Chamber

Reflectances: C = 0.7, W = 0.6, F = 0.15

Gary Steffy Lighting Design Inc./BSS
Ann Arbor, Michigan
April 30, 2014

Filename: GSLD13712_HouseElectricLighting_LCL_01_20140430.AGI
Page 2 of 2

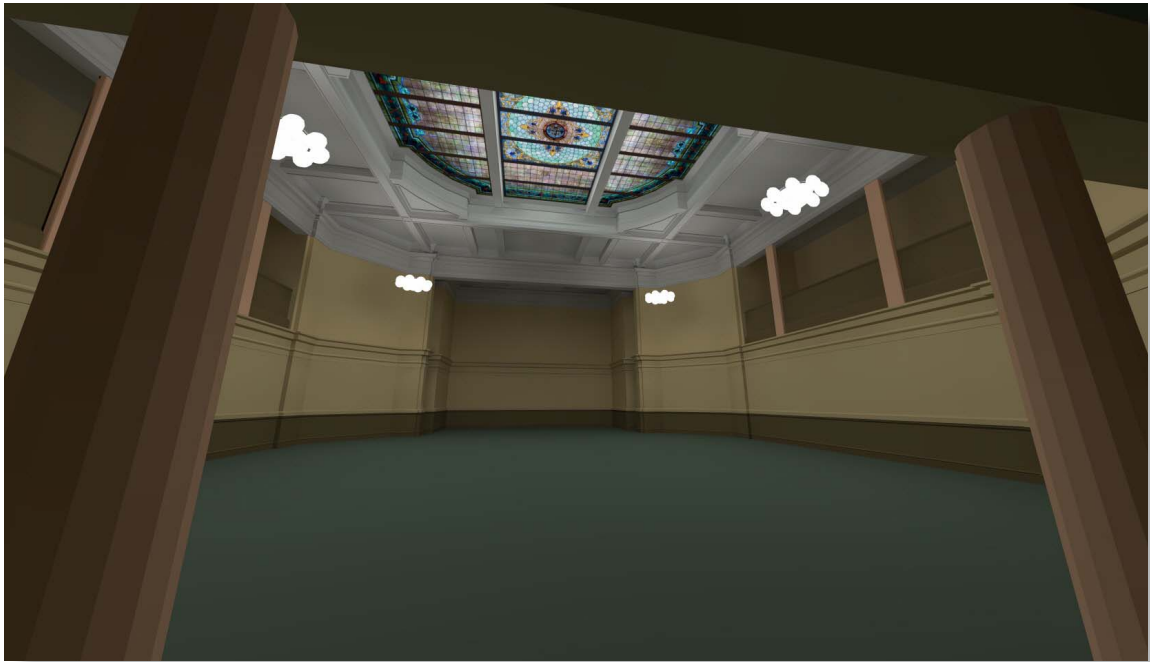


Figure 6.5.14.14: Lighting Calculation: House Chamber



WYSC/13712
Cheyenne, Wyoming
Lighting Determination for Exterior Facade and Dome
Reflectances: C = 0.7, W = 0.6, F = 0.15
Gary Steffy Lighting Design Inc./BSS
Ann Arbor, Michigan
October 22, 2013

Filename: GSLD13712_Whole BuildingwithDomeFacadev25_20131022.AGI
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Qty	Label	Description	Filename	LLF
8	DD22-half	V2355A-43CAB	V2355A-43CAB 4ft 30deg 30	0.322
6	DF1	LBG-120-40K-VN-SI	LBG-120-40K-VN-SI S130319	1.159
6	DF2	LBG-120-30K-NS-SI	LBG-120-30K-NS-SI G130826	0.644
12	DF3	LBG-120-40K-VN-SI	LBG-120-40K-VN-SI S130319	0.580
4	DF4	LBG-120-40K-WFL-SI	LBG-120-40K-WFL-SI G13070	0.580
8	DF5	LBL-120/277-30K-FL-SI	LBL-120-30K-FL-SI ITL6748	0.644
16	DF6	V2355A-41CAB	V2355A-41CAB 4ft 10deg 30	0.322
12	DF7	LBL-120-30K-NF(17.9)C	LBL-120-30K-NF-SI ESTIMAT	0.644
5	DF8	LBG-120-30K-NS-SI	LBG-120-30K-NS-SI G130826	0.644
2	DN2	GLC-50-LED-E1-5-CC	GLC-50-LED-E1-5-CC.ies	0.644
48	DU1	60773-W	60773-W.ies	0.644
24	L11111901	LR5-GPILED-CLR-90	L11111901.ies	0.322
5	S23IP-1L35	S23IP-1L35-ETG-4-U-DD-S92HTS	S23IP-1L35-4D-S92HTS.ies	0.644

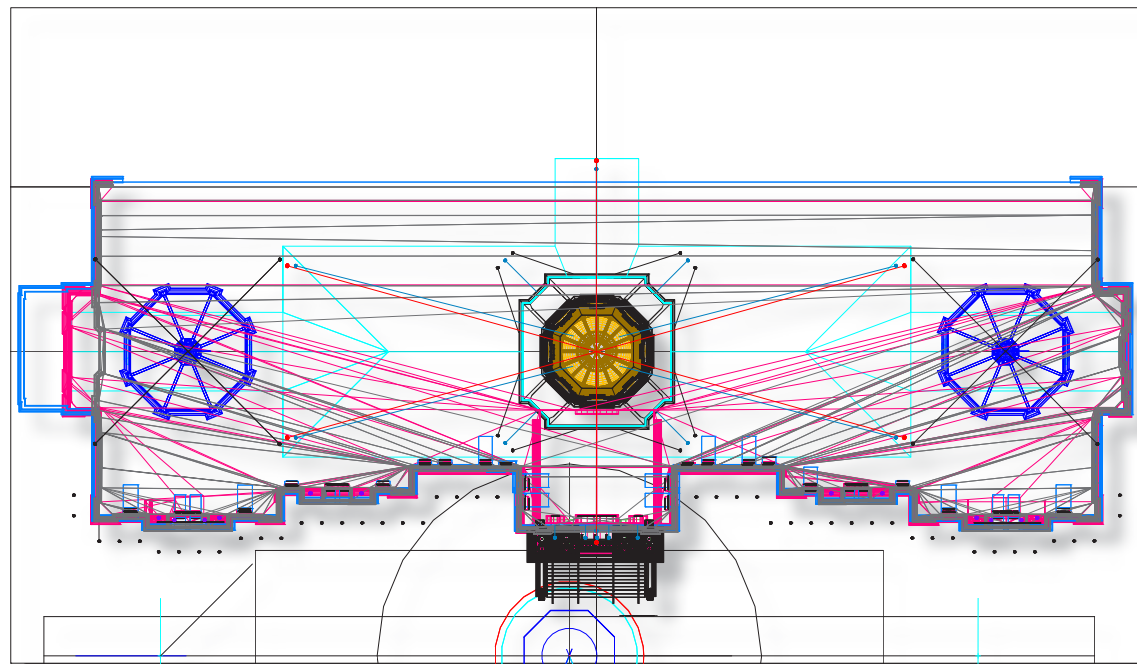


Figure 6.5.14.15: Lighting Calculation: Exterior Facade and Dome

WYSC/13712
Cheyenne, Wyoming
Lighting Determination for Exterior Facade and Dome
Reflectances: C = 0.7, W = 0.6, F = 0.15
Gary Steffy Lighting Design Inc./BSS
Ann Arbor, Michigan
October 22, 2013

Filename: GSLD13712_Whole BuildingwithDomeFacadev25_20131022.AGI
Page 2 of 2

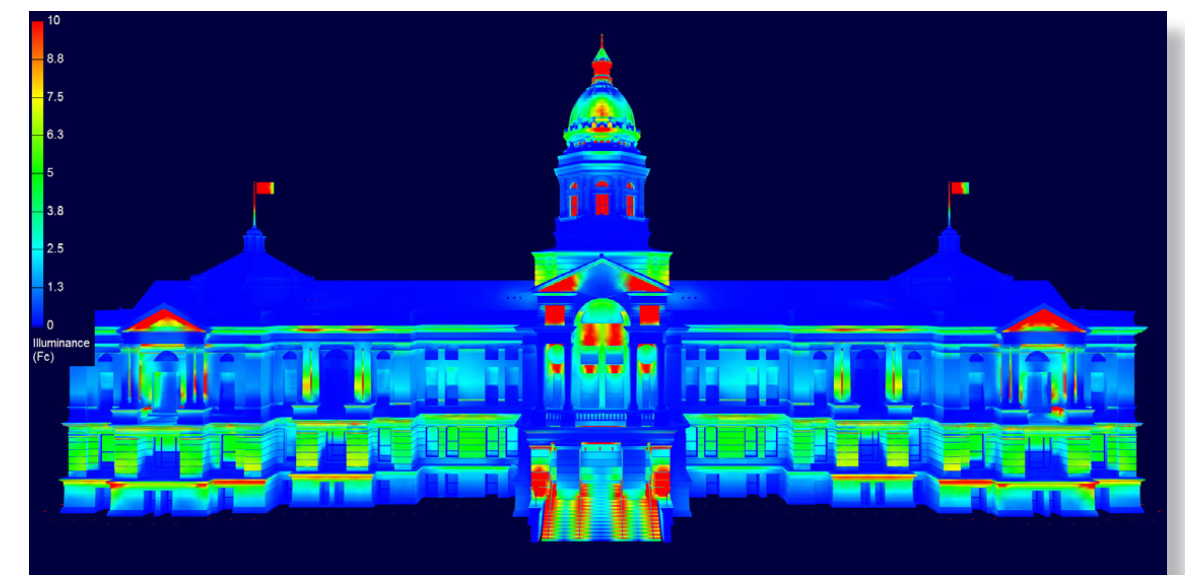


Figure 6.5.14.16: Lighting Calculation: Exterior Facade and Dome

6.6 Building Infrastructure & Systems

6.6.1 INTRODUCTION

Existing Conditions and Itemized Recommendations are outlined by discipline on the pages that follow. The Schematic Design Drawings and Specifications Table of Contents issued with this report provide additional details regarding the scope of work.

Disciplines included are:

- 6.6.2 Mechanical Systems
- 6.6.3 Electrical Systems
- 6.6.4 Plumbing Systems
- 6.6.5 Telecommunication Systems
- 6.6.6 Fire Protection Systems
- 6.6.7 Audio Visual Systems
- 6.6.8 Security Systems
- 6.6.9 Specialty Systems for Chambers
- 6.6.10 Acoustic Control of Building Systems



6.6.2 SCOPE OF WORK: MECHANICAL SYSTEMS

System #	Equipment Location	Area Served
SF-1	Basement East	House of Representatives Chamber
SF-2	Basement East	Basement & 1st Floor East Interior Zones
SF-3	Basement West	Senate Chamber
SF-4	Basement West	Basement & 1st Floor West Interior Zones
SF-5	Attic West	2nd Floor Senate Lobby
SF-6	Attic West	3rd Floor Senate Lobby and Press Room
SF-7	Attic East	2nd Floor House Lobby
SF-8	Attic East	3rd Floor House Lobby
SF-9	Attic	3rd Floor Conference Room and Press Room
Fan Coil Units	Throughout Building (approximately 165)	

Figure 6.6.2.1: Summary of Capitol Building Existing HVAC Systems

Existing Conditions

The current Heating, Ventilating and Air Conditioning system in the Capitol primarily consists of 4-pipe fan coil units that utilize chilled water for cooling and low pressure steam for heating - both from the existing Central Plant in the Hershler Building. The spaces conditioned by fan coil units have minimal mechanical ventilation, and rely in large part on operable windows for ventilation. In numerous other locations throughout the building and in the Attic, there are additional air handling unit (AHU) systems that supplement areas such as interior offices and high-occupancy spaces. These systems have chilled water coils for cooling and steam coils for heating. A series of thermostatically controlled dampers on the Third Floor also relieve air into the Attic during the summer when Third Floor spaces get too warm.

As described in the **Level I / II Report**, these systems are beyond their expected service life and do not serve the entire Capitol Building.

Local Weather Concerns

- Extreme cold, frequent blizzard conditions with wind-driven snow
- Design Features:
 - Dedicated outside air (DOAS)
 - Low Intake Air Velocities
 - Water Eliminators/Drains

Proposed Treatment Summary

Proposed Infrastructure

Cooling and Heating Services from Central Utility Plant:

- Chilled Water for Cooling
- Hot Water (with glycol) - Outside Air System
- Hot Water (without glycol) - Reheat & Fin Tube Radiation

Airside Systems - Garden Level

Proposed Scope of Work:

- Four (4) Mechanical Rooms (MERs)
- Two (2) Standard Air Handling Units (AHUs) in each of the four (4) MERs to serve the Garden Level & First Floor
- VAV Boxes in MERs
- Duct Distribution under Raised Access Floor in Garden Level
- Fan Coil Units (FCUs) to serve First Floor Vestibules

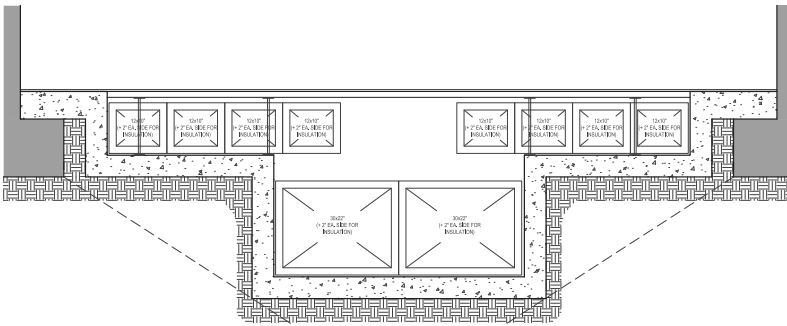


Figure 6.6.2.2: Typical Garden Level Trench at Main Corridor

Proposed Treatment

Proposed Infrastructure

The source for heating and cooling the Capitol will be the new Central Utility Plant (CUP). Chilled water supply and return piping (CHW) and hot water supply and return piping (HW) will be extended from the CUP. There will be two (2) hot water systems. The preheat system serving heating coils in the air handling units and in the dedicated outside air systems (DOAS) will be a propylene glycol and water mix to prevent freezing. The heating hot water system for reheat and perimeter radiation systems will be water only (no glycol mix).

Garden Level Trenching

In order to accommodate the new piping and ductwork and to minimize ductwork runs across ceilings, a network of trenches and a depressed slab below select areas of the finished floor of the Garden Level will be provided. This network will allow for airside and waterside systems to be installed with minimal impact on the historical character of the building [Figure 6.6.2.2].

Proposed Mechanical Systems

Refer to **Mechanical Design Diagrams** [Figure 6.6.2.6 to Figure 6.6.2.23] following this section for proposed system layouts and concept plans.

Airside Systems - Garden Level

There will be four (4) Mechanical Equipment Rooms (MERs) on the Garden Level. The four (4) MERs will be located symmetrically around the floor plan, one MER in each quadrant.

Two (2) AHUs will be stacked, one on the other, within each MER. The air handling units will be variable air volume (VAV) units. The VAV boxes serving each of the zones connected to each air handling unit will be located within the MER, eliminating the need for access panels in ceilings to repair and maintain VAV boxes in occupied spaces [Figure 6.6.2.3 and Figure 6.6.2.4].

The AHUs located on the Garden Level will provide heating, cooling, and ventilation to the Garden Level and the First Floor.

Each MER and its air handling units on the Garden Level have been located to avoid ductwork crossing through monumental spaces.

Ductwork and piping to and from the air handling units on the Garden Level will occur primarily below the Garden Level raised access floor (and above a depressed concrete slab installed just above the top of the existing structural footings in select areas of the Garden Level). Where duct and piping cross-overs cannot be accommodated in the below-floor cavity above the depressed slab, deeper trenches will be provided.

It is not the intent to install valving, dampers, mechanical equipment, etc. below the Garden Level access floor. Access flooring outside the MERs will not be designed to accommodate regular access, but only for repairs.

Airside Systems - Attic

All remaining air handling units will be located in the Attic area. These air handling units will also be variable air volume type and will provide heating, cooling, and ventilation to the Second and Third Floors. The VAV boxes serving each of the zones connected to each of these air handling units will be located within the Attic [Figure 6.6.2.5].

In addition to the AHUs in the Attic, there are two (2) dedicated outdoor air system (DOAS) units that will precondition ventilation air prior to its distribution to the AHU's in the Attic and the AHU's on the Garden Level.



6.6.2 SCOPE OF WORK: MECHANICAL SYSTEMS (CONTINUED)

Localized exhaust fans will be provided for toilets, janitor closets, utility rooms, etc. Additional local exhaust fans will be provided at pantries and other areas where heat dissipation and/or odors are a concern, in coordination with programming requirements to be determined.

The exhaust ductwork system will extend from the Garden Level into the Attic through two (2) main exhaust risers. The ductwork will combine and be exhausted by centralized exhaust fans in the Attic. The exhaust discharge will be ducted through the roof using an existing chimney.

Ductwork

Ductwork will be provided with silencers in accordance with the acoustical consultant’s criteria. Silencers will be sized to limit the pressure drop to 0.1 in W.G.

For preliminary budgeting purposes, low pressure supply ductwork downstream of VAV terminal devices should be assumed to be provided with 5 ft. long, medium pressure drop sound attenuators sized for 1,000 fpm.

Acoustical lining will be provided as recommended by the acoustical consultant. Supply and return air ducts connecting the noise sensitive spaces will be sized for low air flow velocities, per the acoustical consultant’s criteria.

Vibration isolation of equipment shall be provided as recommended by the acoustical consultant.

Waterside Systems

All systems will be arranged to provide 24-hour air conditioning and/or heating. A waterside economizer system in the CUP will be utilized. Cooling will be performed by chilled water coils in the air handling units and in fan coil units as described below.

Each Variable Air Volume box will come with its own reheat coil for zone control and for overall heating of the building.

Four-pipe fan coil units with chilled and hot water piping will be installed to provide supplemental heating and/or cooling in vestibules and high load areas.

Finned-Tube Radiation

Finned-Tube Radiation mounted in custom architectural enclosures will be installed below almost every window in the facility for heating. Control valves and shut-off valves will be concealed within the enclosures rather than be installed in the ceilings below where access panels would be required.

The piping will be installed in the cavity below the Garden Level finished floor and above the depressed slab to supply the radiation on the Garden Level, and to feed risers to the upper floors.

Additional radiation piping in the ceiling cavity of the Garden Level will create a second loop to feed the radiation on the First Floor.

This arrangement will be repeated on the upper floors. Additional radiation piping in the ceiling of the First Floor (below the existing Second Floor structure, and above the elevation of the new First Level plaster ceiling) will create a third loop to feed the radiation on the Second Floor, and additional radiation piping in the ceiling of the Second Floor (below the existing Third Floor structure, and above the elevation of the new Second Floor plaster ceiling) will create a fourth loop to feed the radiation on the Third Floor.

A product similar to Runtal Radiation is being considered for the perimeter radiation. The location of the control valves and access valves must be carefully considered if this type of radiation is utilized, since access panels above ceilings are undesirable.



Proposed Treatment Summary (Continued)

Airside Systems - Attic

Proposed Scope of Work:

- Ten (10) Air Handling Units in Attic to serve the Second and Third Floors
- Variable Air Volume (VAV) Boxes in Attic
- Two (2) Dedicated Outdoor Air System Units to Serve Attic & Garden Level AHUs
- Two (2) Exhaust Fans for smoke exhaust
- Eight (8) FCUs for attic heating & cooling
- Two (2) Exhaust fans for toilet exhaust

Waterside Systems

Proposed Scope of Work:

- Chilled & Hot Water Coils at AHUs
- Reheat Coils at VAVs
- Chilled & Hot Water Coils at FCUs
- Finned Tube Radiation (FTR) below windows, served from HW piping routed below floor / in ceiling below FTRs

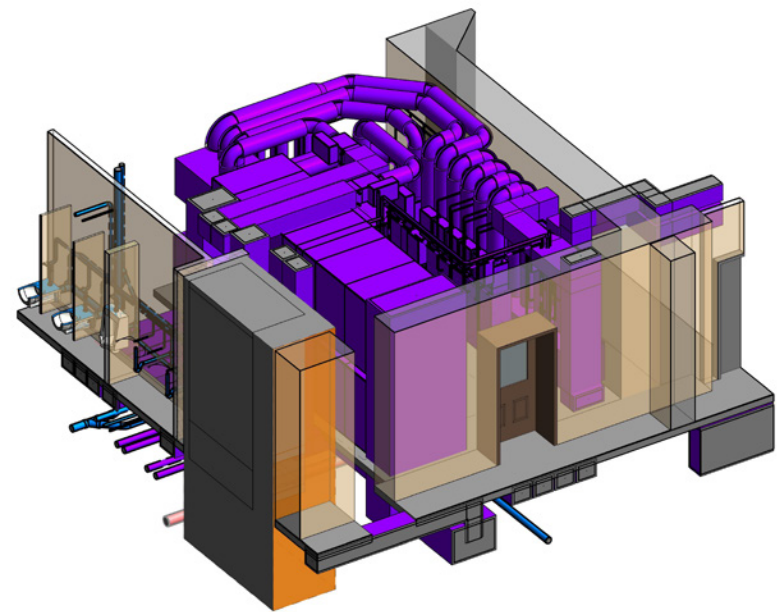


Figure 6.6.2.4: Typical Garden Level Mechanical Room - 3D

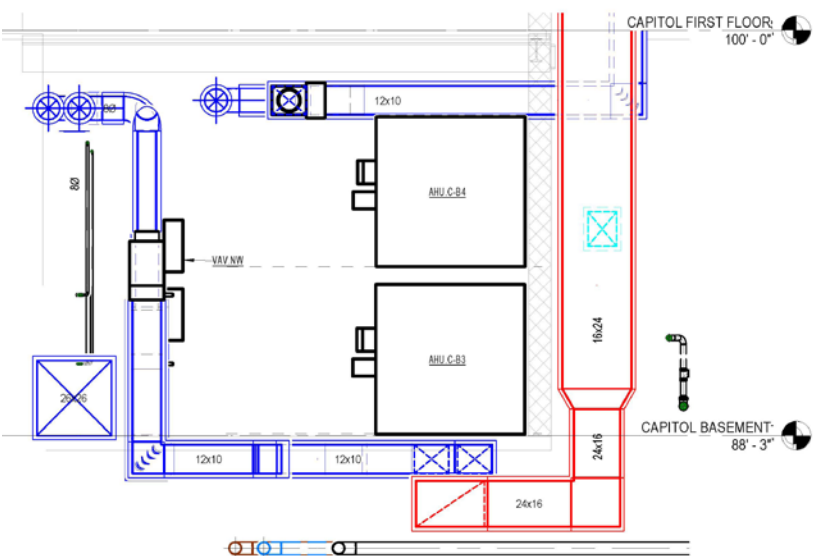


Figure 6.6.2.3: Garden Level Mechanical Room Section

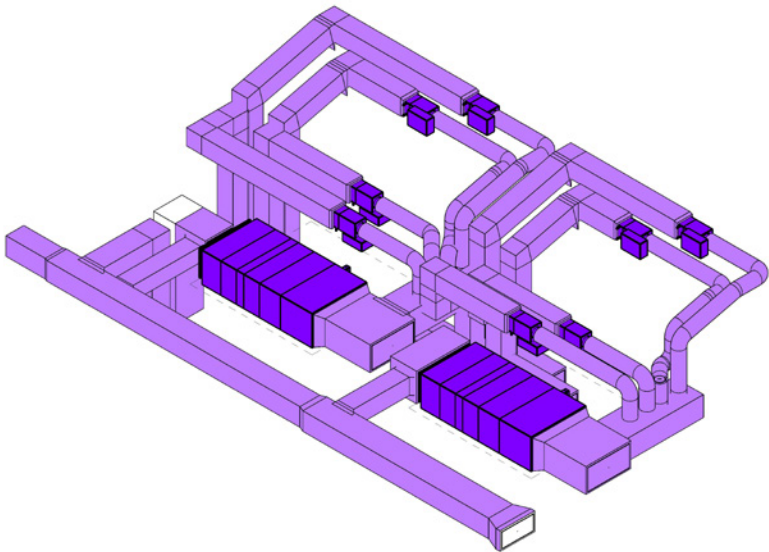


Figure 6.6.2.5: Attic AHUs & VAVs

6.6.2 SCOPE OF WORK: MECHANICAL SYSTEMS (CONTINUED)

Smoke Evacuation System

The building will be provided with a smoke evacuation system including a makeup air system that will provide tempered air to the building. The makeup air system will be designed for an approximate 50 degree temperature rise so as to minimize the potential for freezing in the coldest of days if the system should be required to operate.

Two makeup air units will be located in the Garden Level and will supply make-up air to the Atrium at the Garden Level via underslab ductwork to supply air at the base of the Rotunda.

The smoke exhaust fans will be located in three locations within the Attic, two (2) locations above the East and West side of the Third Floor Main Corridor ceiling, and a third location above the Rotunda.

Humidification

Humidification will not be provided for the building since introducing humidification can increase the possibility of damage to the historic fabric due to condensation.

Building Control

A fully integrated building automation system (BAS), incorporating direct digital control (DDC) for energy management, equipment monitoring and control, and subsystems with open communications capabilities will be provided.

The Capitol’s automation system (BAS) will be interfaced with the Capitol Square Complex and existing Wyoming State system.

For all wall-mounted HVAC sensors, special types of sensors will be provided to improve the aesthetics of these device installations. Devices will be selected to minimize their appearance and blend in with the historic finishes and structures. Custom-color devices will be specified and “button-type” sensors will be utilized were available and practical to minimize the visual impact to the space. Wireless type sensors will be utilized were available and proven reliable to minimize the impact to the historic fabric.

Temperatures will not be setback in this building during periods of low or no occupancy as stable temperatures are an important feature of preserving the building’s historic fabric. Overall temperatures will be kept relatively constant.

During un-occupied time periods, the outdoor air systems may be shut down for energy conservation, while continuing to maintain steady temperatures within the spaces.

Acoustical Controls

Refer to Acoustical Control of Building Systems, Section 6.6.10 for details of Acoustical Control of Mechanical Systems.

Proposed Treatment Summary (Continued)

Smoke Evacuation Systems

Proposed Scope of Work:

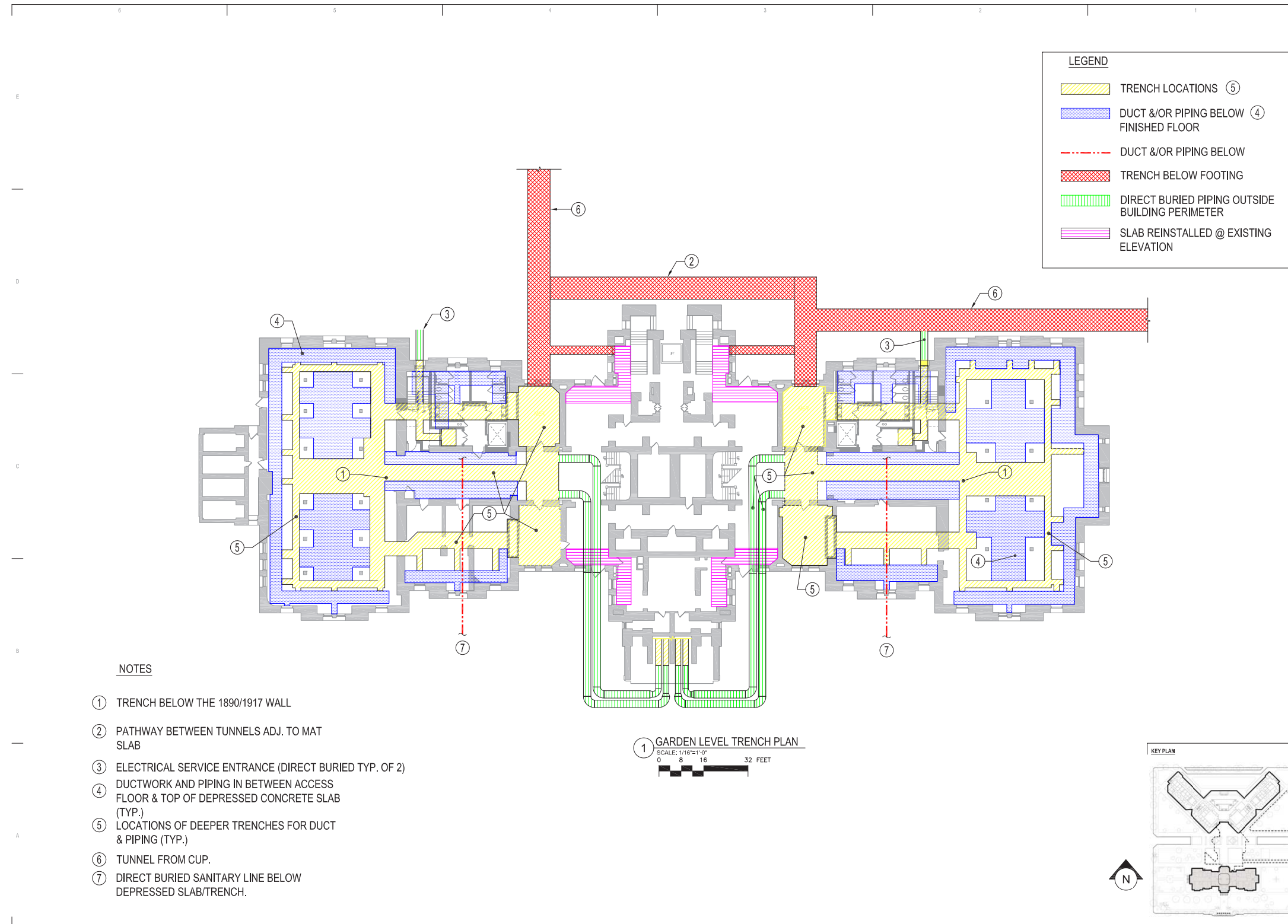
- Two (2) Make-up Air Units at Garden Level
- Underslab ductwork to the base of the Rotunda at Garden Level
- Two (2) Smoke Exhaust Fans at East & West in Attic
- Four (4) Smoke Exhaust Fans above Rotunda in Attic

Building Control

Proposed Scope of Work:

- Direct Digital Control (DDC) System





Capitol Square
Rehabilitation and Restoration

HR PDP R4

MARK	DATE	DESCRIPTION
PRELIMINARY NOT FOR CONSTRUCTION		
19 DECEMBER 2014		
PROJECT NUMBER		
ORIGINAL ISSUE		
GARDEN LEVEL PLAN TRENCH PLAN		
SCALE		
M-GL-T		

Figure 6.6.2.6: Garden Level Trench Plan



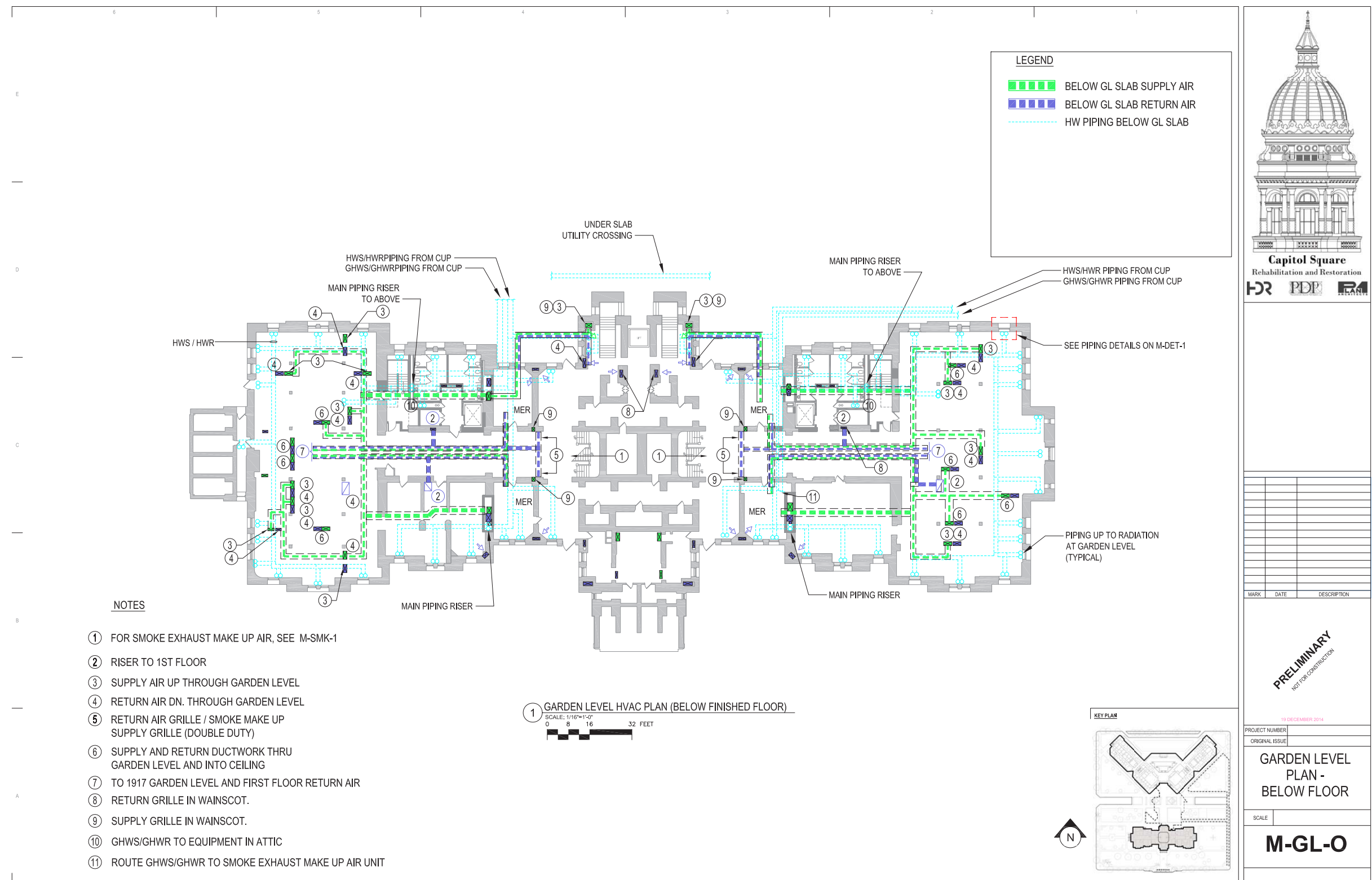
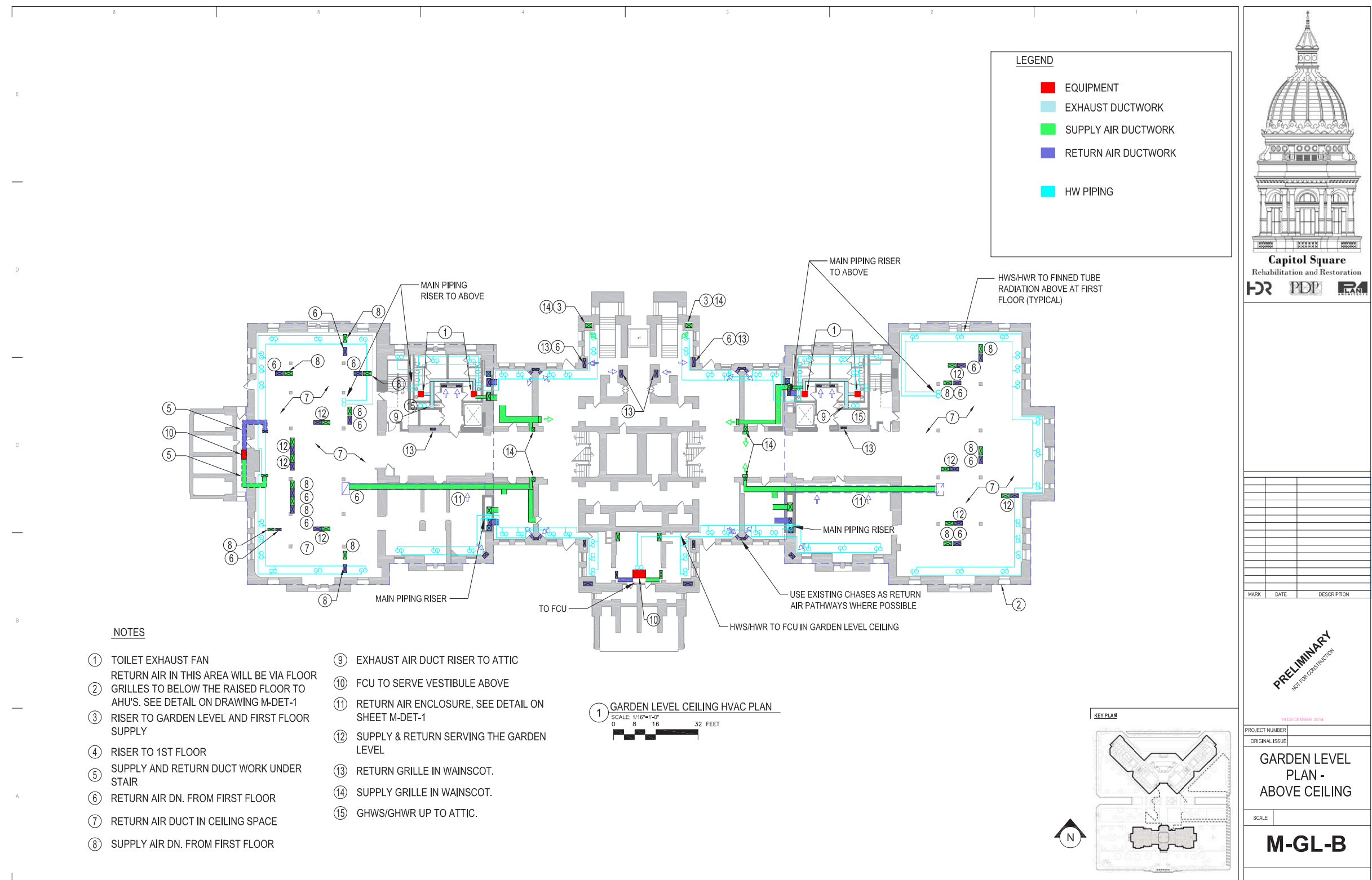


Figure 6.6.2.7: Garden Level HVAC Plan (Below Finished Floor)



Figure 6.6.2.8: Garden Level HVAC Plan (At Floor Level)





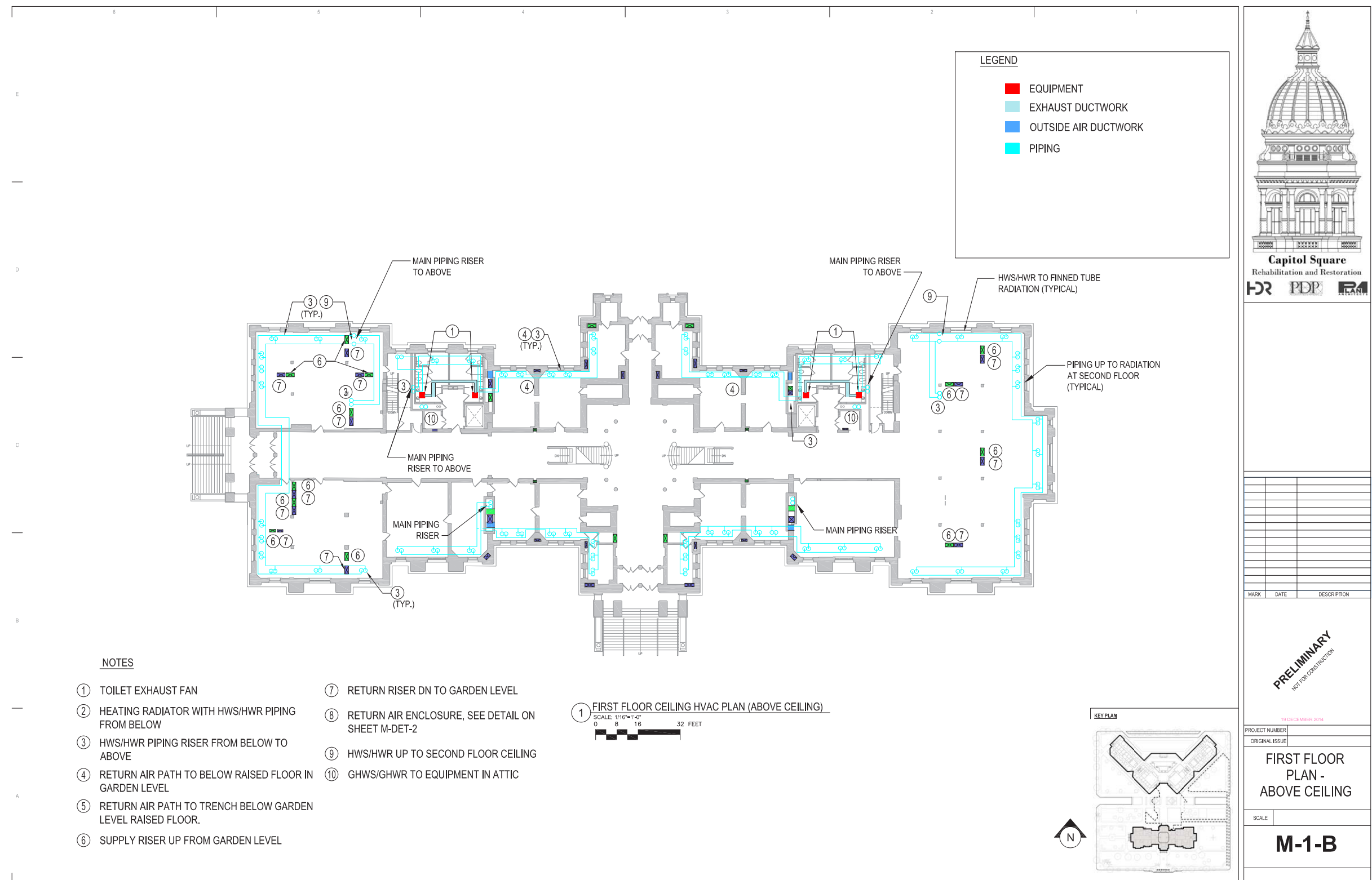
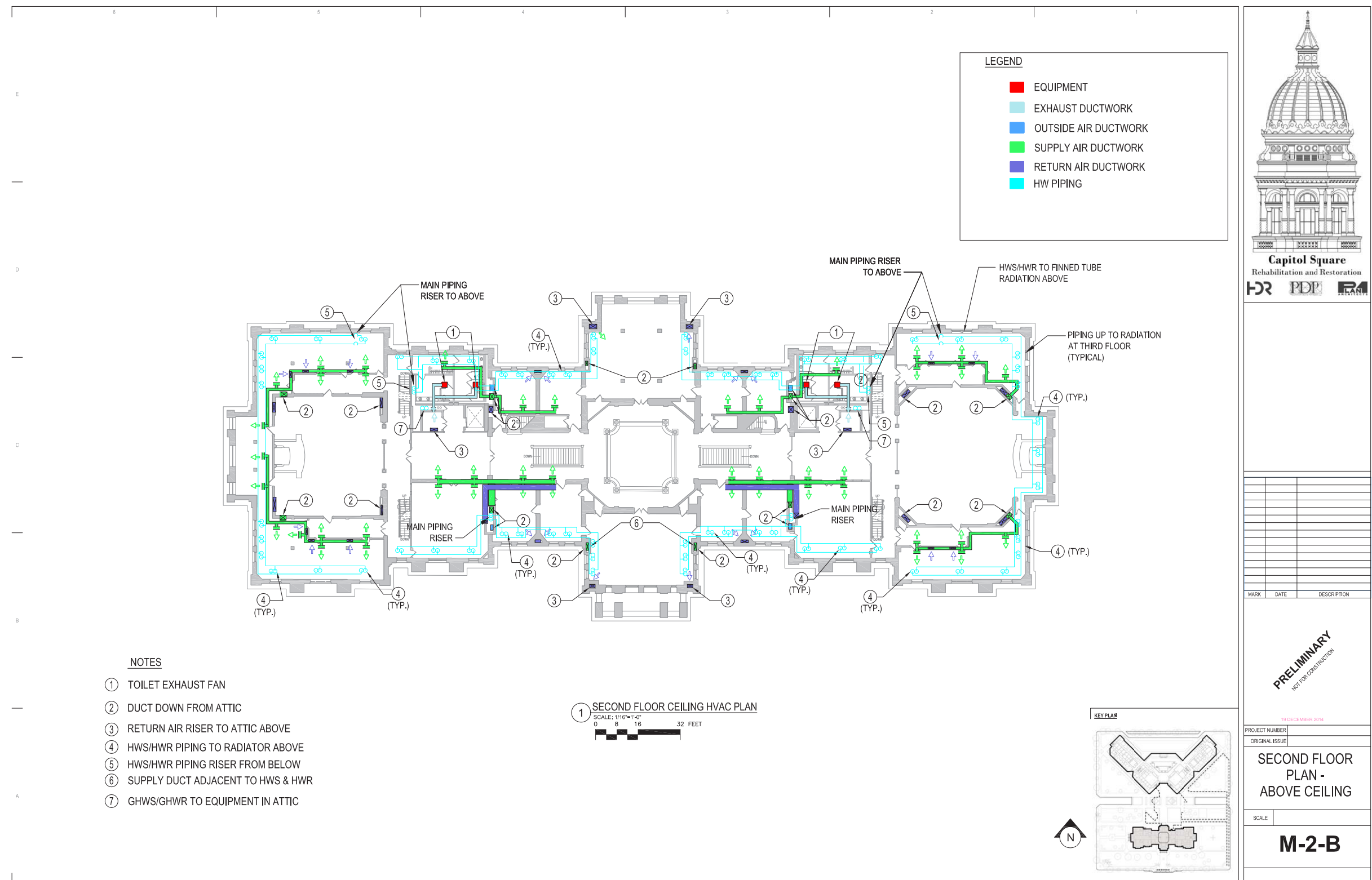


Figure 6.6.2.11: First Floor Ceiling HVAC Plan (Above Ceiling)



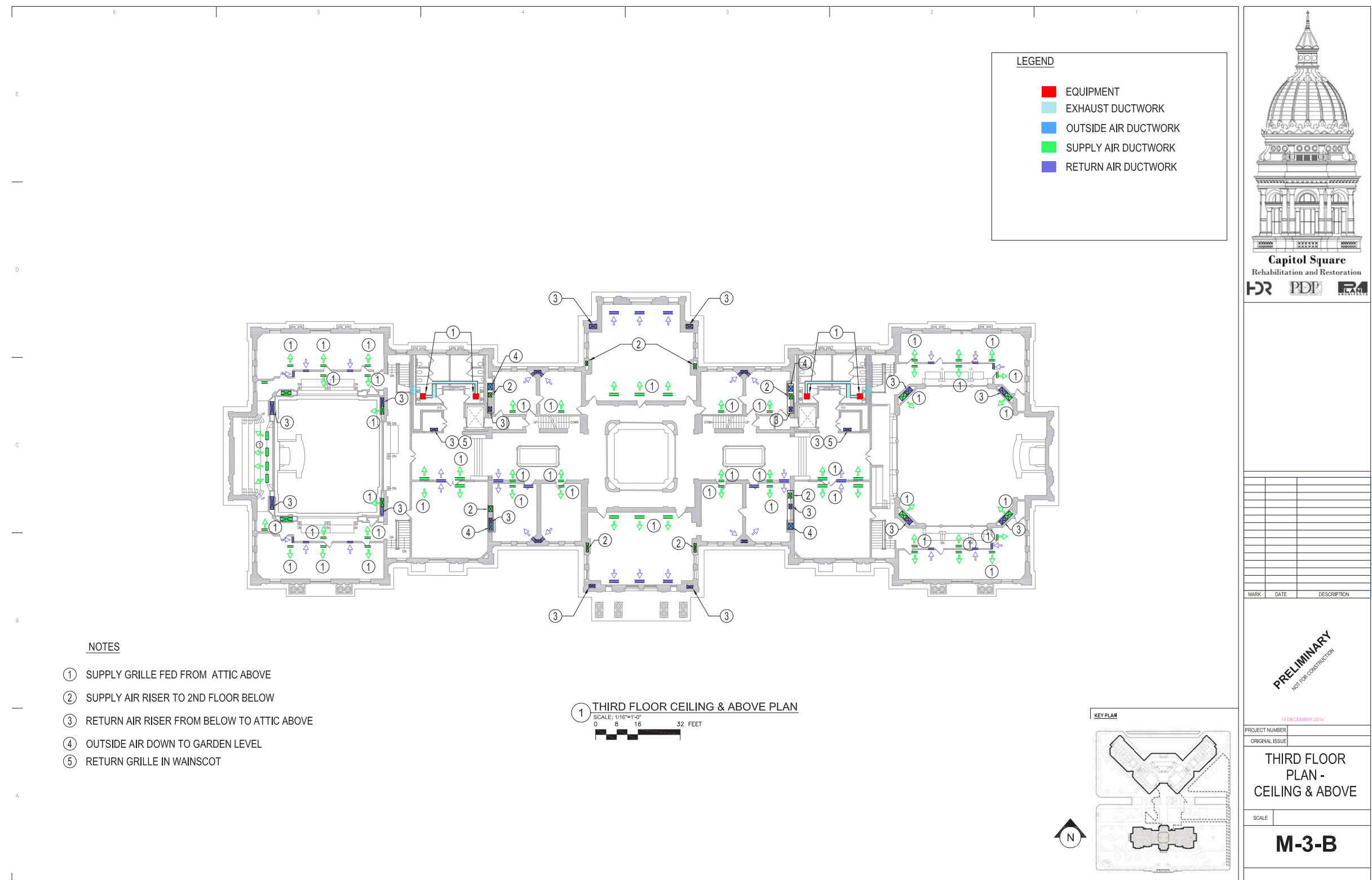


Figure 6.6.2.15: Third Floor HVAC Ceiling and Above Plan

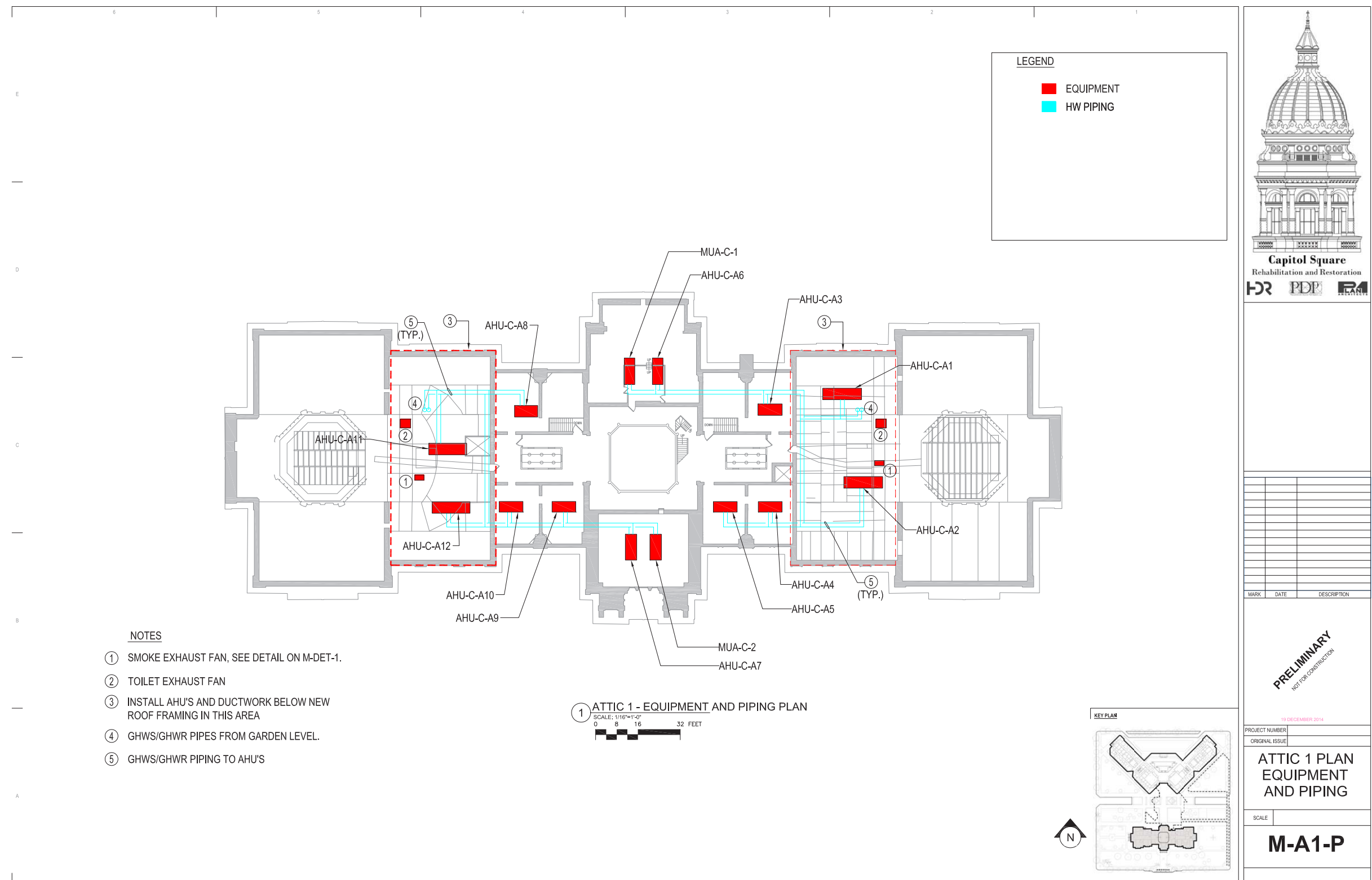


Figure 6.6.2.17: Attic 1 - HVAC Equipment and Piping Plan

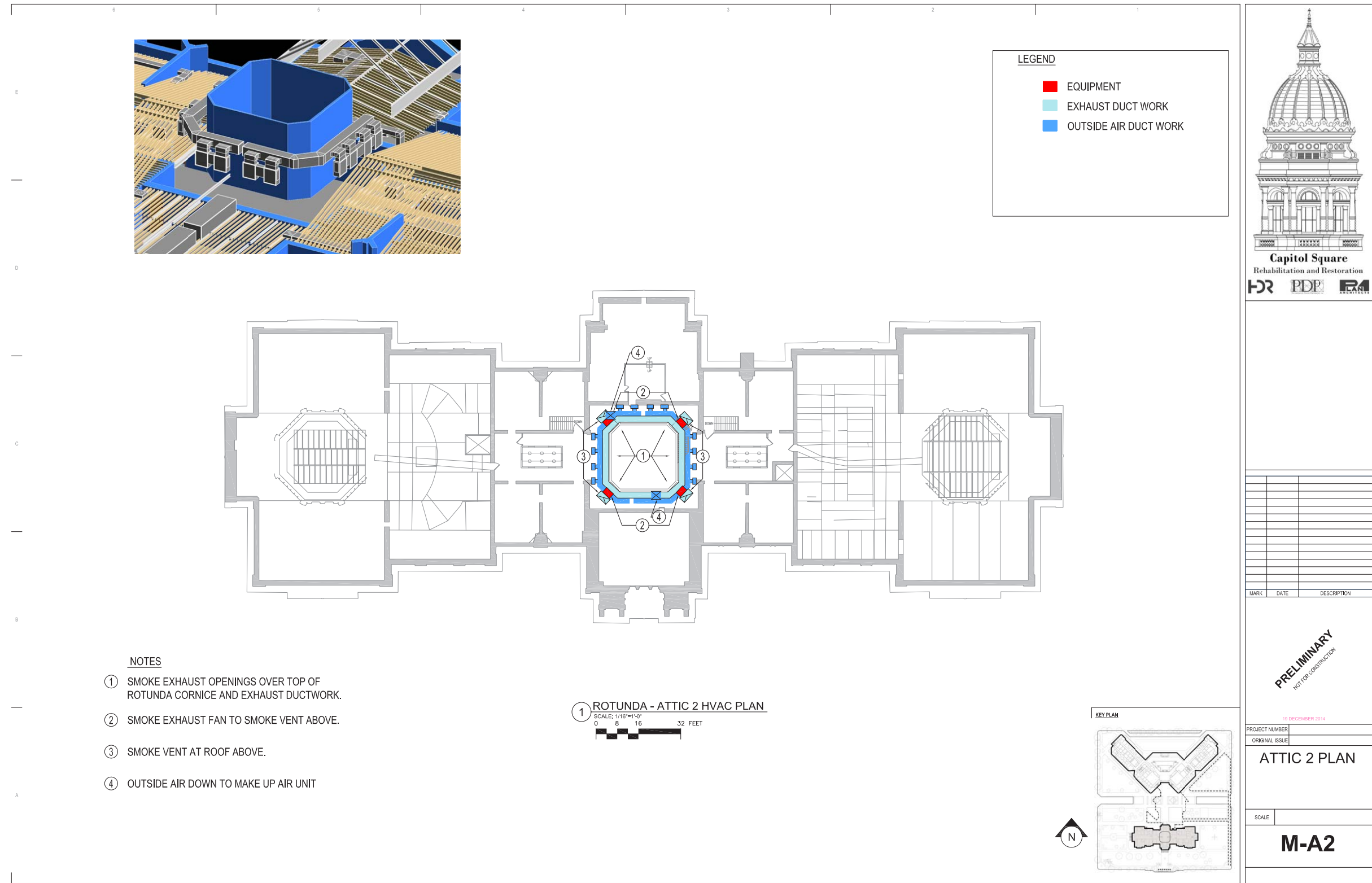
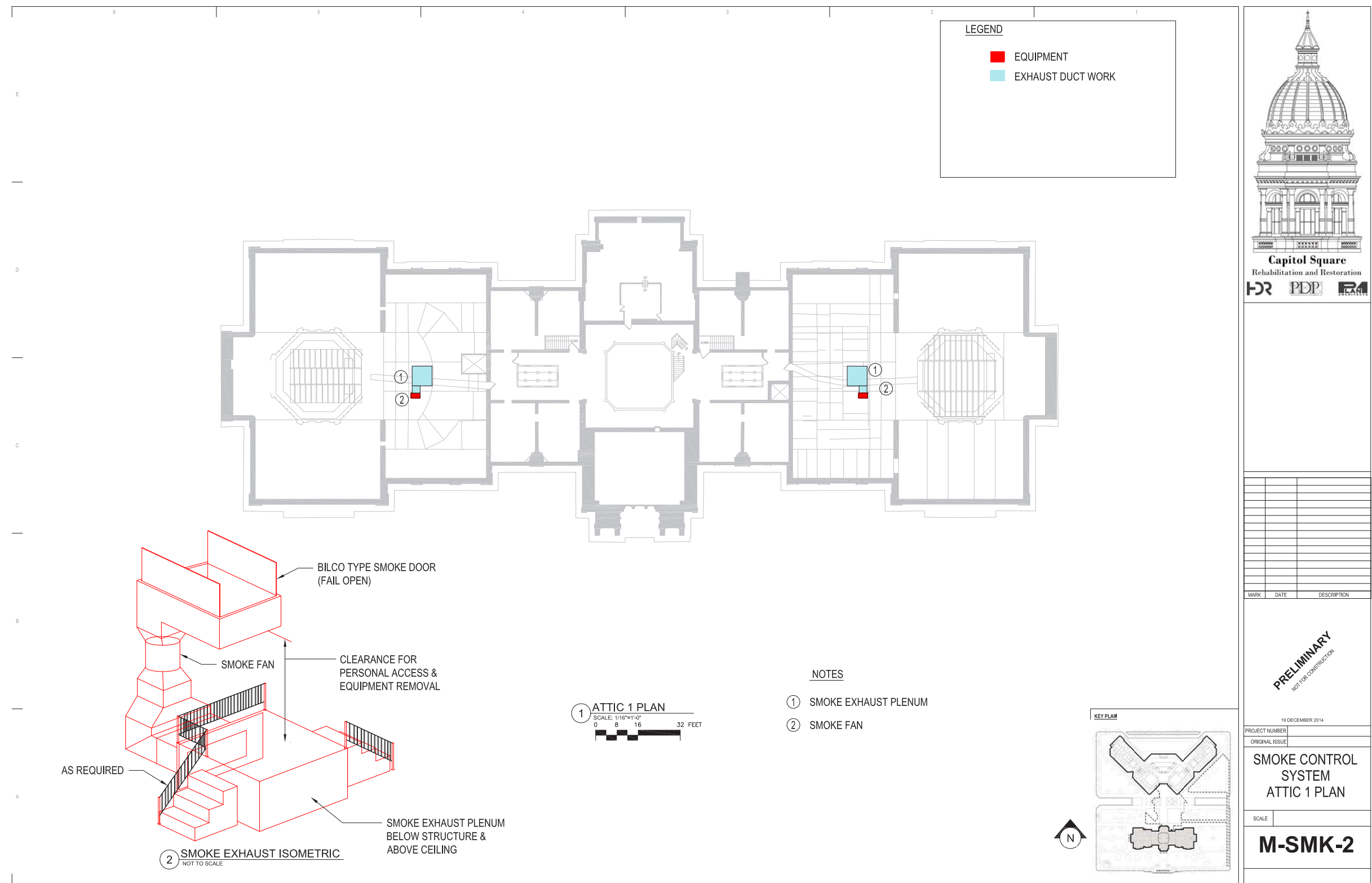
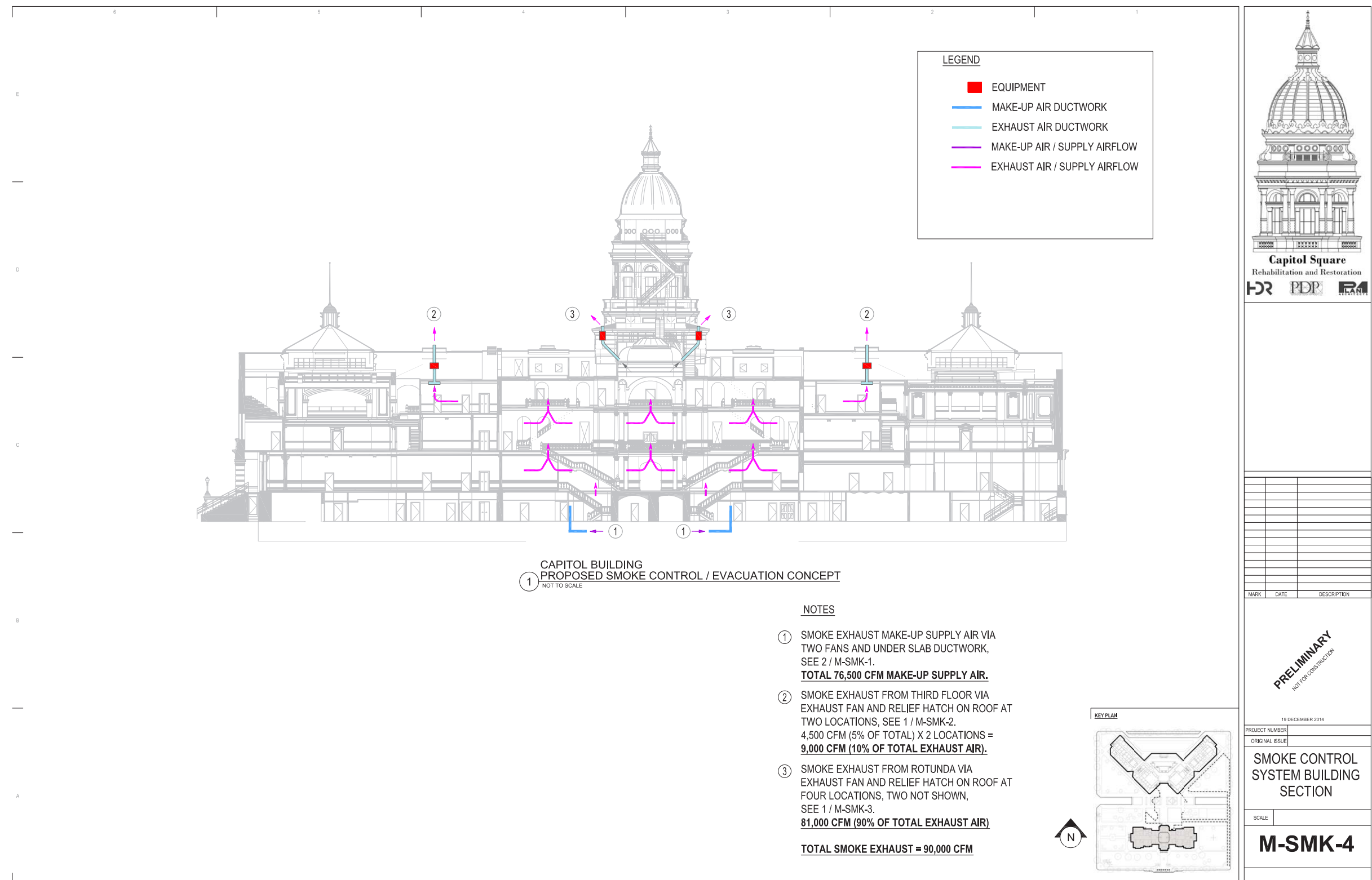


Figure 6.6.2.18: Attic 1 - HVAC Equipment and Ductwork Plan







6.6.3 SCOPE OF WORK: ELECTRICAL SYSTEMS

Existing Conditions

One (1) existing outdoor service transformer with 208/120V secondary serves the Capitol via an existing switchboard located in the Connector just north of the Capitol. Approximately 20 existing feeders from this switchboard serve panelboards located throughout the Capitol, as described in the **Level I-II Report**. Much of the existing installation is beyond its useful life expectancy and, under the scope of this project, all existing utility service equipment and all electrical distribution equipment is to be disconnected and removed. The scope of removal includes removal of all electrical infrastructure, equipment, panelboards, feeders, lighting and devices, including all existing conduits throughout the Capitol.

The Capitol is currently protected by a single “electronically activated streamer emission” type air terminal located at the top of the dome. (National Lightning Protection – NLP, Prevetron 3 Series). There are two (2) existing down conductors routed down the building via the two (2) existing elevator shafts. Because the existing elevator shafts are proposed to be removed, the existing ground conductors must be removed as well.

Proposed Treatment Summary

Electrical Service & Rooms

Proposed Scope of Work:

- “Normal / Standby” 480/227V Service from Herschler Building
- “Emergency” Service 480/227V from Herschler Building
- Stacked Electrical Rooms on alternating floors

Electrical Circuiting

Proposed Scope of Work:

- Mechanical Loads served at 480V
- Receptacle & Lighting Loads served at 120V
- All wiring in conduit
- MI Cable for selected feeders and branch circuits

Proposed Treatment

Power Provisions

There will be (2) electric feeders serving the Capitol from the new electrical service and distribution system at the Herschler Building as follows:

- An 800A, 480/277V Normal / Standby feeder will run to the Capitol Building from the First Floor Herschler Low Voltage Switchgear Room to the northeast side of the Capitol and will terminate at Main Distribution Panel “MDP-BE” in the Main Electrical Room in the East Service Core on the Garden Level.
- A 400A, 480/277V Emergency feeder will run to the Capitol from the First Floor of the Herschler Building ATS Room to the northwest side of the Capitol and will terminate at Emergency Distribution Panel “EDP-BW” in the Main Electrical Room in the West Service Core on the Garden Level. This feeder will serve emergency / life-safety loads [Figure 6.6.3.1].
- Both the Capitol’s normal / standby and emergency feeders will be backed up by the Herschler / CUP roof-mounted generator. Uninterruptible Power Supplies (UPS), if required for specific equipment, will be provided by local, plug-in UPS units; UPS requirements to be defined by the Owner in the **Design Development Phase**.
- Electric Rooms will be vertically stacked and alternate by floor with the Telecom Rooms on both the west and east sides of the building.
- Normal and emergency power feeders will cross over at the Attic where they then feed down to serve normal / standby and emergency loads at the alternate sides of the building.
- The electrical panels in the Senate and House Chambers East and West will be fed down from the Attic.
- All large mechanical loads will be specified at 480V. All other loads in the building, including lighting are to be fed at 120V. 480/120V step-down transformers will be located in typical Electrical Rooms.
- Distribution panelboards and branch circuit panelboards of the molded case circuit-breaker type will be utilized to serve all receptacle and general power loads.

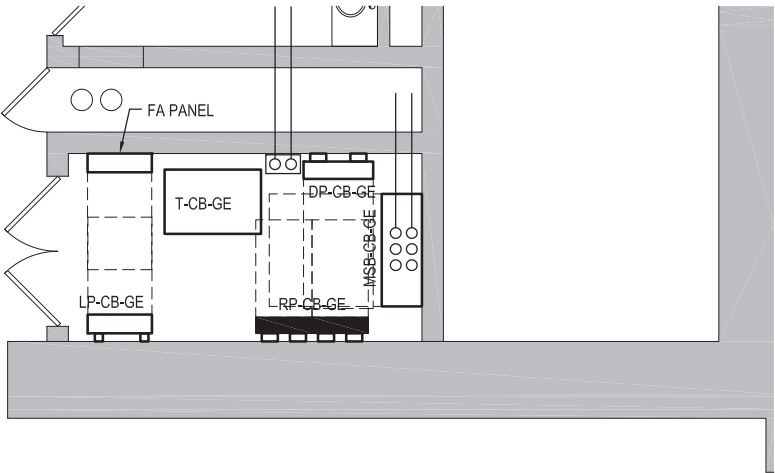


Figure 6.6.3.1: Garden Level Main Electrical Room

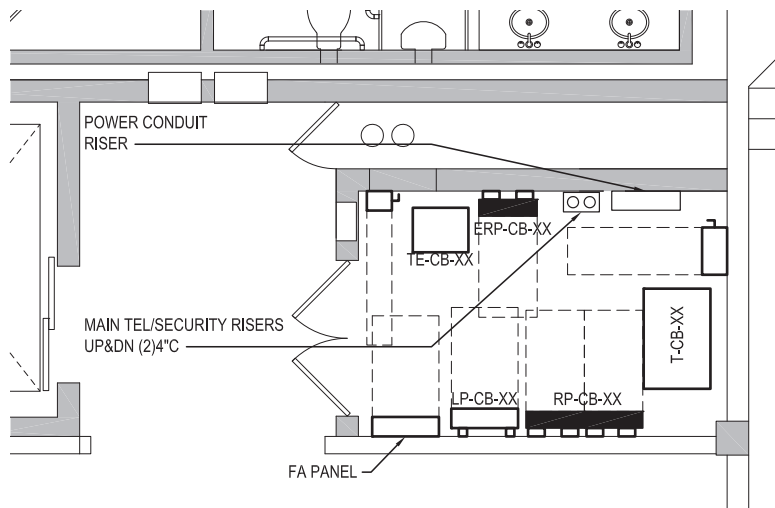


Figure 6.6.3.2: Typical Electrical Closet



6.6.3 SCOPE OF WORK: ELECTRICAL SYSTEMS (CONTINUED)

Proposed Treatment Summary (Continued)

Electrical Provisions/Auxiliary Systems

Proposed Scope of Work:

- Conduit Pathways for telecom, security, A/V and voting systems
- Power Provisions for addressable voice fire alarm system with all cabling in conduit
- “S” lightning protection system

Feeder and branch circuit wiring will be run in RGS (Rigid Galvanized Steel) for all exterior exposed or EMT (Electric Metallic Tubing) for interior locations. Mineral-insulated (MI) cable will be used for selected feeders and/ or branch circuiting to accommodate fire-rating and/or space restrictions in routing paths.

All conduits will be installed concealed in finished areas and exposed in mechanical spaces. Branch conduit routing details will be carefully coordinated to minimize crossings for space requirements and to minimize junction boxes and access requirements.

Wiring will be copper with type “THHN” or type “THWN” insulation. Insulated ground conductors will be routed with all feeders and branch circuits.

All panelboards and equipment will be provided with ground buses or lugs connected to equipment enclosures.

Wall-mounted copper ground buses will be provided in the main Electric and Telecommunication Rooms.

Lighting Control Panels utilizing non-dimmed and dimmed output circuits will be provided for central automatic control of all interior and exterior lighting circuits, as described in Lighting Section 6.5.14.

Telecommunication Provisions

Incoming Telecom services will be routed to the East and West Service Cores along with power ductbanks. Telecom will rise up in stacked closets alternating with Power Provisions as described in power section above.

A pathway system of conduits and sleeves will be provided for the building’s cabling infrastructure.

A cabling infrastructure consisting of risers, horizontal cabling and devices and racks will be provided as described in Telecommunication Systems Section 6.6.5 System equipment, including servers, hubs, etc., will be provided by the Owner.

Auxiliary System Provisions

Power connections and conduit wiring will be provided for all auxiliary systems, including security, audio/visual systems and voting systems - scope to be defined.

Fire Alarm System Provisions

An addressable field programmable voice-evacuation fire alarm system combining manual and automatic devices will be provided in accordance with code, NFPA and local requirements as described in Fire Protection Systems Section 6.6.6. The fire alarm system will be powered by the Capitol’s emergency electrical service. All fire alarm cabling will be installed in a complete conduit system.

Lightning Protection

The existing system, including down conductors, ground rods and air terminal will be replaced in-kind with new equipment and down conductors. The manufacturer’s recommended replacement model is the NLP, Prevectorn 4 Series. This air terminal or its equivalent from an alternate manufacturer will be provided.

Acoustical Controls

Refer to Acoustical Control of Building Systems Section 6.6.10 for details of acoustical controls of equipment.



6.6.4 SCOPE OF WORK: PLUMBING SYSTEMS

Existing Conditions

The Capitol’s domestic water service is fed from an existing main water service in the underground Connector Building. Hot water is served from the two main hot water heaters in the Herschler Building. As described in the **Level I-II Report**, the existing water and drainage piping in the Capitol will not be adequate to serve the proposed plumbing fixtures. Existing plumbing fixtures within the Capitol will be demolished. Where possible, existing plumbing piping will be removed rather than abandoned in place.

The existing storm drainage system is comprised of twelve 4” roof drains and twelve 4” rain water leaders. The leaders are original to the building, have been repaired over the years and should be replaced. The roof drain bodies should be replaced as part of the leader replacement and roof replacement.

The existing fire water service consists of a single 8” water service fed from 24th Street and backflow preventer, dated 1999, to the existing standpipe system. This service will be removed due to conflicts with proposed architecture.

Proposed Treatment Summary

Plumbing Services (from Central Utility Plant)

Proposed Scope of Work:

- Two 3” domestic cold water services - East & West
- Two 1/2” domestic hot water with two 1” returns - East & West
- Two 6” fire water lines - East & West

Proposed Treatment

Domestic Cold Water System

Two 3”domestic cold water pipes from the Central Utility Plant will enter the north side of the Capitol at the Northeast and Northwest Service Core Restrooms. Both services will enter the building below the Garden Level finished floor via a service trench, then turn upward into a wet wall chase at each Service Core. Building isolation valves will be located in the service trench at the building exterior wall. Secondary branch valves will be located at each level of the Capitol, in locations to be coordinated with architectural elements.

Toilet fixtures and pantry fixtures are various makes and vintages and will be removed to accommodate the proposed architecture.

The estimated maximum cold water demand-load based upon current fixture requirements is 130 gpm.

Domestic Hot Water Heating

Two 1½”domestic hot water pipes will enter the north side of the Capitol at the Northeast and Northwest Mechanical Rooms. The recirculating hot water system will originate within the Central Utility Plant (CUP). The west hot water service will be brought into the West Core Restrooms and the east hot water service will be brought into the East Core Restrooms. Both services will enter the building below the Garden Level finished floor via a service trench, then turn upward into a wet wall chase at each Service Core Restroom. Building isolation valves will be located in the service trench at the building exterior wall. Secondary branch valves will be located at each level of the Capitol, in locations to be coordinated with architectural elements.

Two 1” hot water return pipes will be installed in parallel with the two hot water risers and routed from the hot water source in the CUP Building via the service trench.

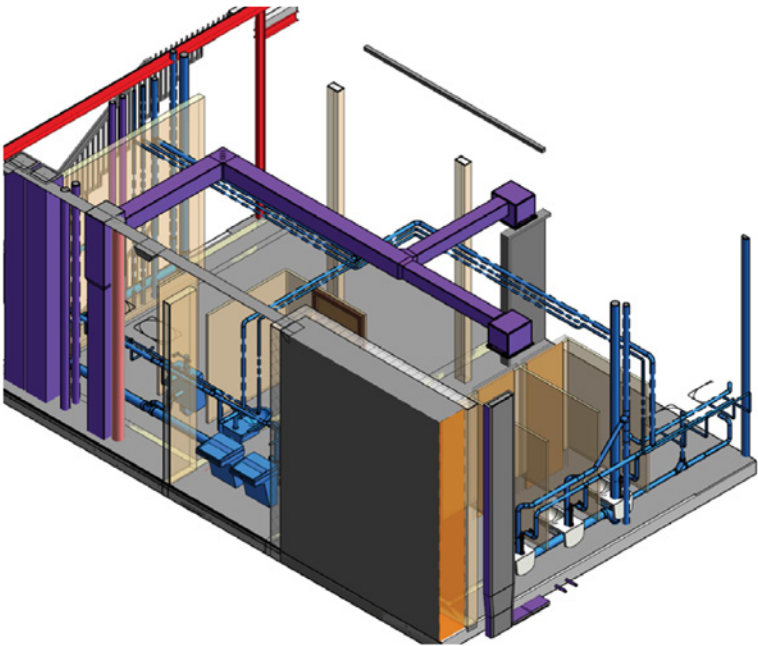


Figure 6.6.4.1: Proposed Plumbing Riser - 3D



6.6.4 SCOPE OF WORK: PLUMBING SYSTEMS (CONTINUED)

Proposed Treatment Summary (Continued)

Plumbing Drainage Systems

Proposed Scope of Work:

- Two Sanitary Main Discharges from Building
- Twelve Rain Water Conductors from roof

Plumbing Equipment

Proposed Scope of Work:

- Sump pumps at Elevator Pits, trenches and smoke exhaust makeup air fan plenums
- Electric Water Coolers

Fire Water

Two 6” fire water pipes will enter the north side of the Capitol at the East and West Mechanical Rooms. The pipes will be routed to the east and west fire protection riser locations in the Service Cores to serve the building’s Fire Protection system.

Plumbing Drainage System

All drainage from the East and West Service Core Restrooms and other distributed fixtures will be gathered in a single 6”ductile iron sanitary main located below the Garden Level finished floor. The sanitary main will be routed in the new service trenches where possible, buried where necessary, and pitched at 1/8” per foot slope. The building drain will be brought out of the building to a point 5 feet beyond the exterior wall of the building and connected to a new sanitary service from Carey Avenue by the civil engineer. Piping beyond 5 feet will be addressed by the Site / Civil Engineer.

Roof Drainage System

All drains will be replaced and new drains coordinated with any modifications to the existing roof. All leaders will be replaced in their entirety through base elbows and out to a point 5 feet beyond the exterior wall of the building. Piping beyond 5 feet will be addressed by the Site / Civil Engineer.

Secondary (emergency) roof drainage is required by the International Plumbing Code 2012 when the maximum potential depth of water ponding on the roof exceeds the design load capabilities of the roof. This might occur if all primary roof drains had become clogged. An analysis should be undertaken to assess the existing roof structure and determine if this is the case. Should secondary roof drainage be required, it can consist of additional, independent roof drains routed to independent storm leaders down through the building, or scupper-type openings in the rooftop parapet wall. The IPC 2012 requires that the end-point discharge of the secondary system be separate from the primary system, and discharge above grade in a normally visible location. Because of this last requirement, we would recommend the scupper system over the secondary drainage system as the having the least impact on the historical fabric of the building.

Plumbing Fixtures

New plumbing fixtures (toilet rooms, pantries, drinking fountains, mop sinks) will be provided in accordance with architectural drawings. Restroom plumbing fixtures will be vitreous china. Pantry sinks will be stainless steel. Floor drains will be cast iron with nickel-bronze grates. Lavatories and water closets will have hands-free faucets and flush valves. Mop sinks will be vitrous china, upright utility sinks, with service sink faucets, vacuum breakers, pail hooks and wall braces. Drinking fountains will be self-contained water-cooler type.

Sump Pumps

Automatic Sump Pumps with alarm will be provided in the two elevator pits, in the Garden Level trench system at each of the four Mechanical Rooms and at each of the two Garden level smoke exhaust make-up air fans / plenum rooms.



6.6.5 SCOPE OF WORK: TELECOMMUNICATIONS/DATA SYSTEMS

Existing Conditions

The Capitol’s telecom system is served from the Herschler Building via cabling routed through the Connector. Telecom Rooms on the Garden Level and in the Attic serve devices and remote punchdown locations throughout the building. Existing cabling consists of various types and ages of cables routed throughout building, concealed and exposed, that will not meet this project’s telecom requirements.

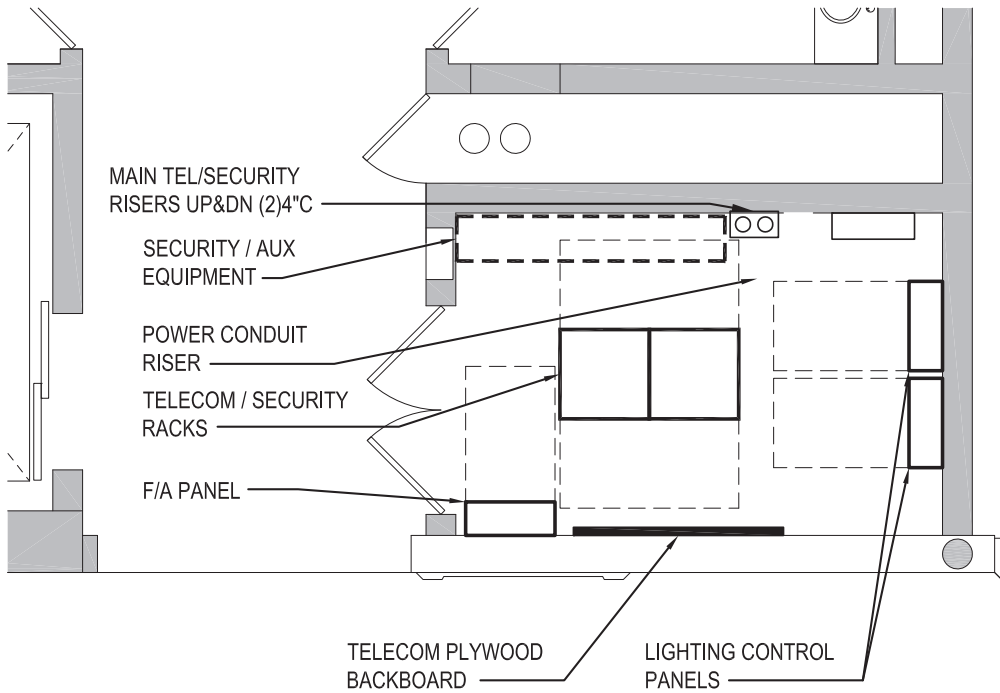


Figure 6.6.5.1: Capitol Building Typical Telecom Room

Proposed Treatment

The telecom infrastructure for the WSC Complex will be designated as a Universal Communications System (UCS), notably to accentuate the overall ability of the system to support all voice, data and video technologies within the Complex network over a standardized cabling system design.

Telecom services for the Capitol will be served from the Central Telecom Room in the Herschler Building and will enter the Capitol via underground conduit ductbanks at the Northeast and Northwest Garden Level MERs. Incoming cabling will be routed in conduits from this location Garden Level access floor and up to the First Floor East and West Telecom Rooms.

Incoming services cables from the Herschler Building and backbone cables routed between the Telecom Rooms within the Capitol will consist of both optical fiber and UTP cable types. Both multi-mode and single-mode fiber will be used for the data backbone. Multi-pair Category-3 UTP cables will be used for a POTS backbone for emergency and security systems only, as a VoIP system will be utilized. The Telecom Rooms will house copper and optical fiber cable terminations and network electronics for delivery of information to the workstations [Figure 6.6.5.1].

Horizontal distribution cables to user workstations shall be 4-pair, Category 6A UTP. These horizontal cable runs are point-to-point, so that each workstation connection is served with a dedicated cable that, under EIA/TIA Standards, shall not exceed 295’ in length.

All cabling will be run in EMT conduit between the Telecom Rooms and from Telecom Rooms to workstations. Bushings will be provided for all conduit and sleeve ends.

A unified Telecom Grounding and Bonding System integrated with the electrical grounding system within the building will be provided. A 4” x 10” x ¼” solid copper grounding busbar connected to the electrical grounding system will be provided in each Telecom Room. All equipment racks and cable trays in the Telecom Rooms will be bonded to the local ground busbar with a stranded, insulated (green) min No. 6 AWG grounding conductor.

System equipment, including servers, hubs, etc., will be provided by the Owner.

Proposed Treatment Summary

Telecom Service and Rooms

Proposed Scope of Work:

- Service from the Herschler Building
- East & West Telecom Rooms on alternating floors
- Telecom / A/V closets adjacent to House and Senate Chambers

Telecom Cabling and Grounding

Proposed Scope of Work:

- Multi-mode & single-mode fiber service & backbone cabling
- Category 3 UTP cable backbone cabling
- Category 6 UTP horizontal cabling distribution to workstations
- All cabling in EMT conduit
- Grounding via busbars & electrical grounding systemsProposed Treatment



6.6.6 SCOPE OF WORK: FIRE PROTECTION SYSTEMS

Existing Conditions

Fire Alarm System

- A manual fire alarm system is provided within the building.
- Pull stations are generally located at exit and exit access doors within the common corridor areas.
- General building area smoke detection is not provided. Automatic smoke detection is provided only at the elevators and cross corridor doors for the function of elevator recall and closing of doors during a fire emergency.
- Bells and horns for occupant notification are generally installed in public and common areas.

Fire Protection System

- No automatic sprinkler system is provided.
- A Class I standpipe system with 2 ½-inch fire diameter fire hose valve outlets is provided in the building. The outlets are located in cabinets around the building.

Smoke Control System

- No smoke control system is in place.

Proposed Treatment

Fire Alarm System

- Full building smoke detection is to be provided for early notification and protection of building .
- Aspirating-type smoke detection operates by sampling air through small openings in walls or ceilings. This system then draws the air through a netowrk of small pipes to equipment that detects smoke. This will be provided in architecturally-sensitive spaces (Monumental Corridors, Governor’s Suite, Ceremonial/’Signing’ Room, Committee Rooms, House and Senate Chambers and the Rotunda). Conventional, spot-type smoke detection is to be provided in the remainder of the building. Refer to the included diagrams showing the type of detection throughout the building [*Figure 6.6.6.1*].
- Point addressable smoke detection will be provided.
- Notification is to be provided via an emergency voice alarm system with speakers and strobes to provide audio and visual notification. Strobes are to be provided in all public and common spaces. Speakers are to be installed to provide minimum sound level of 15 dB above ambient noise throughout all areas of the building.
- The Fire Alarm Control Panel, Voice Annunciator Panel, and Aspirating Smoke Detection Panel are to be installed in the Fire Command Center. Exact location is under discussion but likely to be in Herschler Building.
- Remote annunciator and control panel, along with manual controls to the voice alarm system are to be provided at the State Police desk.
- Notification will be designed for general evacuation of the building.
- Devices will be least obtrusive so as not to impact the aesthetics or historic nature of the building.
- Manual pull stations are not required; only one manual pull station is required at the fire alarm control panel. Accordingly, one will be provided at the State Police desk and in the Fire Command Center to initiate building general evacuation alarm.
- The fire alarm system is to be coordinated with the smoke control system and automatic door closers at the base of the Monumental Stairs across the Main Corridor on the Garden Level and the Senate and House Chambers doors on the Second and Third Floors.

Fire Protection System

- An automatic sprinkler system designed in accordance with NFPA 13 is to be provided throughout the building.
 - Sprinklers will not be installed at the Rotunda ceiling since they are not required by NFPA 13 due to the Rotunda ceiling height
- The sprinkler system is to be supplied by two separate city water connections.
- Two separate risers, one in the West Service Core and one in the East Service Core, shall supply the primary sprinkler mains running adjacent the Monumental Corridors.



6.6.6 SCOPE OF WORK: FIRE PROTECTION SYSTEMS (CONTINUED)

- Risers on the east and west sides of the building are connected in the Attic. There will be no connections or piping through the Rotunda.
 - Standpipe connections are to be located within the Service Cores with access via the Elevator Lobbies.
 - All sprinklers are to be concealed with covers painted to match finish surfaces in occupied spaces.
 - The Fire Department connection is to be located on the side of the building that will be designated for access for emergency personnel during after-hours. The Fire Department connection should be freestanding in a location that will be kept clear at all times. It should be located in proximity (within 100 feet) to a fire hydrant.
 - By code, fire extinguishers are required within 75’ feet. This requirement is suggested to be discussed with the Fire Marshal in light of the other fire protection systems proposed for the building.
- Smoke Control System**
- A smoke control system is to be provided as an increased life safety measure to alleviate the concern of smoke spread through the building due to the “one volume” nature of the building.
 - Exhaust is to be achieved at three different locations within the Capitol – laylights within the East and West Corridors at the Third Floor ceiling, and the Rotunda. At the upper level of the Rotunda, smoke will be pulled behind the cornice via smoke exhaust fans and discharged through roof smoke vents.
 - Supply air for the smoke control system will be provided via four windows at the South center of the building in the Garden Level. Air will be pulled in via fans at the Garden Level, tempered, and ducted below grade and below the Garden Level slab where it will be discharged at the Garden Level into the Monumental Stair.
- Construction**
- Any new shaft enclosures are to be constructed of noncombustible material to match the fire-resistance rating of the floor slab penetrated.
 - Any through penetrations are to be sealed and fire-safed with noncombustible sealant.



- Spot Detection
- Aspirating Smoke Detection

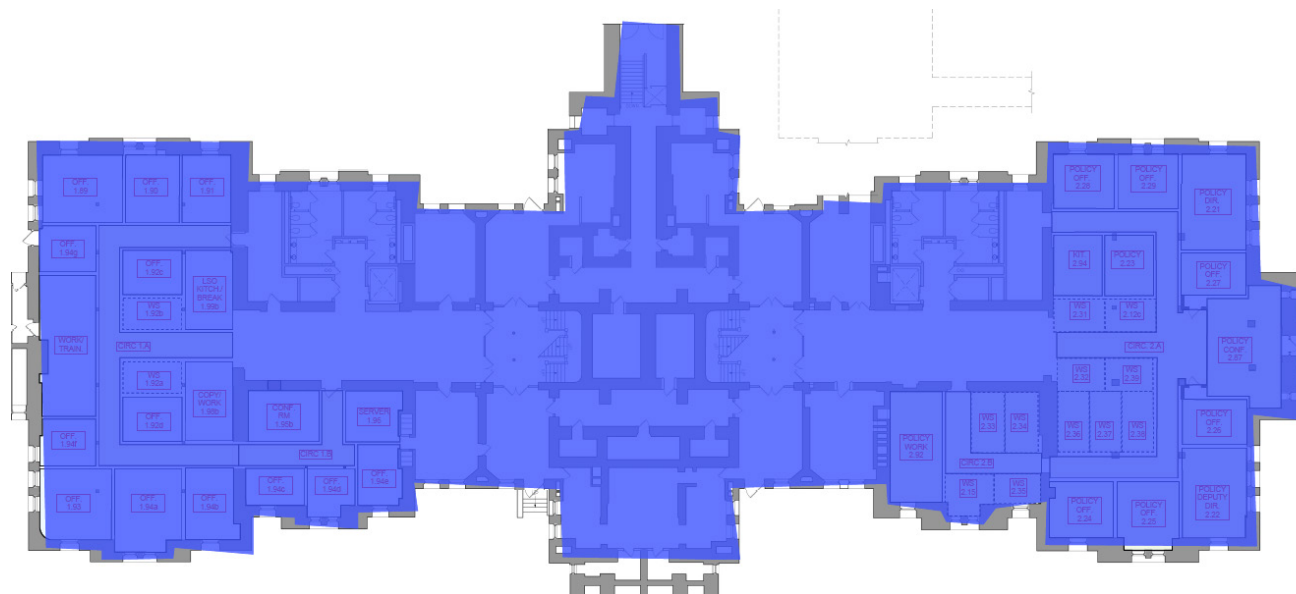


Figure 1: Garden Level – Detection Zones

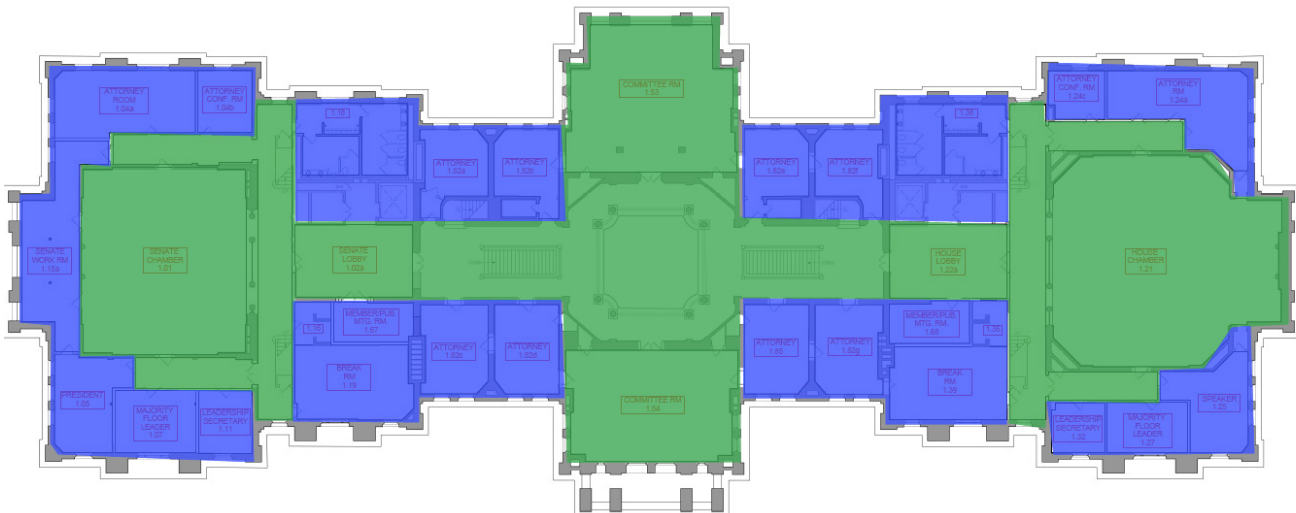


Figure 3: Second Floor – Detection Zones

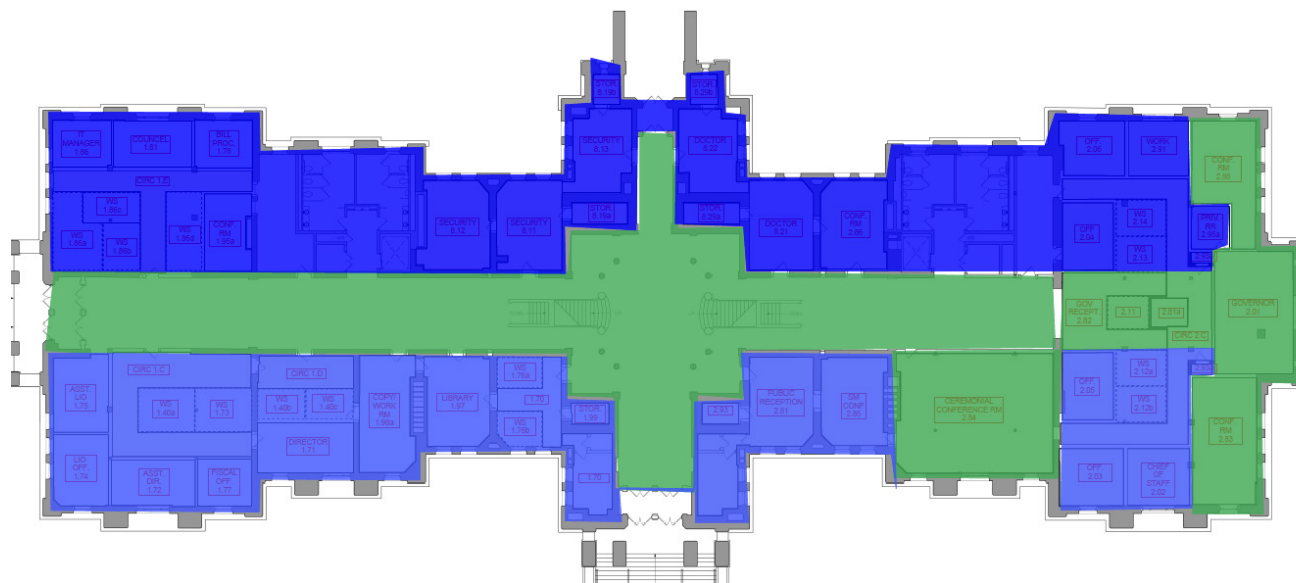


Figure 2: First Floor – Detection Zones

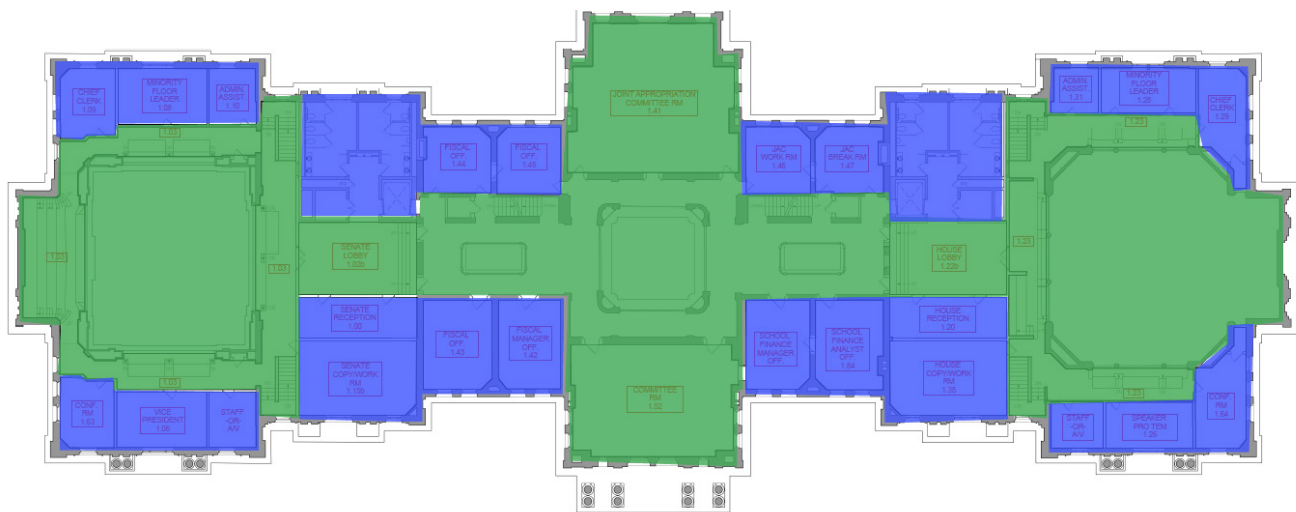


Figure 4: Third Floor – Detection Zones

Figure 6.6.6.1: Detection Zones by Equipment Type



6.6.7 SCOPE OF WORK: AUDIOVISUAL SYSTEMS

General Notes

The features described below have been identified as preliminary requirements for the AV systems. Many of the systems are intended to match or improve functionality that is currently present in the existing systems in both Chambers. However, some of the systems described below are not currently a part of the proceedings, and will need to be discussed and approved as policy by the Wyoming Legislature. Many of the systems proposed can have a significant impact on the architecture and aesthetics of the space and will need to be closely coordinated with the Wyoming Legislature, A& I, and the design team to ensure that they are feasible and desirable from an architectural integration perspective.

To assist in “future-proofing” for changing technology, as well as for changes in the process of the Legislature, the AV design will work towards providing the infrastructure required by all of the systems included in this narrative, while realizing that some of these systems might not be implemented due to cost or policy.

Senate and House Chambers

General Requirements and Design Approach

The AV systems for the Senate and House Chambers must facilitate the legislative functions. The spaces have a defined layout with fixed furniture and all AV components are permanently installed. Aesthetics are of primary concern, and all AV devices and components (microphones, loudspeakers, displays, etc.) will blend in with the architecture and interior design of the space. Where possible, devices will be concealed within the furniture in order to keep them out of sight as much as possible.

The audio and video systems will be designed using modern technologies based on digital media and networking. This will allow the systems to be flexible in routing and configuration, as well as provide scalability towards the future. Audio systems will use advanced digital signal processors with user friendly control capabilities facilitating operation and configuration by the Legislative Clerks, as well as LSO staff for maintenance and support.

Committee Rooms

General Requirements and Design Approach

The AV systems for the Committee Rooms must facilitate the legislative functions. Room layout may use fixed or flexible furniture and is to be defined during space planning. The AV infrastructure will be designed to provide maximum flexibility in these spaces. Audio and video systems will be designed using modern technologies based on digital media and networking. This will allow the systems to be flexible in routing and configuration, as well as provide scalability towards the future.

Audio systems will use advanced digital signal processors with user friendly control capabilities facilitating operation and configuration by the Legislative Clerks, as well as LSO staff for maintenance and support.



Audio Systems

Microphones - Senate Chamber

- The audio systems shall allow Senators to address the Chamber from their desks by using a gooseneck microphone permanently installed at each position.
- Additional microphones will be provided at the dais for use by the legislative clerks and the President of the Senate.
- Wireless microphones will also be provided as a complement to the fixed wired microphones, and may be used during special sessions, or events that might require a different or more flexible microphone location.

This functionality is provided in the existing Senate Chamber system.

Microphones - House Chamber

The audio systems in the House Chamber do not currently include individual microphones at the Representative’s desks, but rather microphones located at lecterns in each corner of the room, as well as microphones in the front of the Chamber for the Leadership.

- Wireless microphones will be provided as a complement to the fixed wired microphones, and may be used during special sessions, or events that might require a different or more flexible microphone location.
- In order to provide for flexibility for any future changes in the legislative process, infrastructure to support individual microphones at each desk shall be included.

Microphones - Committee Rooms

- The audio systems shall allow Committee members to address the room using a gooseneck microphone dedicated at each position.
- Additional microphones will be provided for use at the witness table, and by staff and audience.
- Wireless microphones will also be provided as a complement to the fixed wired microphones, and may be used during special sessions, or events that might require a different or more flexible microphone location.

Loudspeakers - Chambers

- For optimum intelligibility, a “near field” loudspeaker will be located at each desk. The distributed loudspeaker systems will allow high intelligibility at each listener’s position while preventing the overall volume of the room from being excited and degrading speech intelligibility.
- The sound processing system will allow a discrete mix to each loudspeaker providing a true mix-minus system where a talker’s voice never comes out of his or her own loudspeaker.
- Additional loudspeakers will be provided at the dais positions, in peripheral areas for staff, as well as in the upper level gallery.

This functionality is provided in the existing systems.

Loudspeakers - Committee Rooms

- For optimum intelligibility, a “near field” loudspeaker will be provided at each position.
- The distributed loudspeaker systems will allow high intelligibility at each listener’s position while preventing the overall volume of the room from being excited and degrading speech intelligibility.
- The sound processing system will allow a discrete mix to each loudspeaker providing a true mix-minus system where a talker’s voice never comes out of his or her own loudspeaker.
- Additional loudspeakers will be provided for the staff, audience and witness areas.

Audio Overflow - Chambers

- During legislative sessions or other special events, audio from both Chambers will be distributed to other locations around the Wyoming Capitol for overflow and monitoring purposes.
- Some of these locations will include LSO offices, all hearing rooms, meeting rooms, press and media locations, as well as any other spaces designated throughout the design process.
- The systems will be based around a digital audio network to allow for a flexible distribution method that can be dynamically configured and easily scaled.

The functionality described is partially provided in the existing systems; however, the current audio overflow distribution system is point-to-point, using analog audio. Routing is inflexible, and the signals are not available at all desired locations.

Audio Overflow - Committee Rooms

- Audio from hearing rooms will be distributed to other locations around the Wyoming Capitol for overflow purposes.
- Some of these locations will include LSO offices, other hearing rooms, meeting rooms, press and media locations, as well as any other spaces designated throughout the design process.
- The systems will be based around a digital audio network to allow for a flexible distribution method that can be dynamically configured and easily scaled.

Assistive Listening Systems - Chambers + Committee Rooms

- ADA compliant assistive listening systems will be provided to accommodate those who are hard of hearing.
- An inductive loop system will be provided. It consists of a wire loop run at floor-level around the perimeter of the room, and provides a magnetic field that can be picked up directly by hearing aids equipped with t-coil technology.

6.6.7 SCOPE OF WORK: AUDIOVISUAL SYSTEMS (CONTINUED)

- In addition, an infra-red (IR) based system will also be installed to enable audio to be received through special headsets.

This functionality is partially provided by the existing systems of the Chambers.

Audio Conferencing - Committee Rooms

- Audio conferencing will be provided as a base system integrated with the in-room reinforcement systems for all hearing rooms.
- Remote users will be able to participate in committee proceedings while listening in and being heard with the same quality as those present in the room.

Press/Media Distribution - Chambers

- In addition to the overflow feed to the press center as described above, direct “clean” feeds will be provided from the audio systems for distribution to the press.
- These feeds can be located at designated panels in both Chambers, or in other locations throughout the Capitol, and/or adjacent buildings.

This functionality is provided by the existing systems, but will be expanded to serve other locations.

Press/Media Distribution - Committee Rooms

- In addition to the overflow feed to the press center as described above, direct “clean” feeds will be provided from the audio systems for distribution to the press.
- These feeds can be located at designated panels in the hearing room, or in other locations throughout the Capitol, and/or adjacent buildings.

Audio Streaming and Archiving - Chambers

- Audio capture and streaming systems will allow all legislative sessions to be streamed over the Internet.
- Redundant systems will be provided for live encoding of the proceedings and distribution to a streaming server designated by the Wyoming Legislature.
- A digital media archival system will allow the encoded proceedings to be stored for future access using smart tagging through metadata in order to allow for easier search and retrieval of files.

This functionality is partially provided by the existing system.

Audio Streaming and Archiving - Committee Rooms

- Audio capture and streaming systems will allow all committee sessions to be streamed over the Internet.

- A live encoding system will be provided for distribution to a streaming server designated by the Wyoming Legislature.
- A digital media archival system will allow the encoded proceedings to be stored for future access using smart tagging through metadata in order to allow for easier search and retrieval of files.

Privacy and Security - Chambers + Committee Rooms

- The audio systems will provide a secure mode of operation during which audio reinforcement in the rooms will function as usual, but all signals leaving the spaces will be muted.

This functionality is not provided by the existing Chamber systems.

Video Systems

Video Presentation - Chambers

Video presentation systems can be provided to allow all present to effortlessly see the video content. The House Chamber already utilizes permanently-mounted projection screens and portable projectors for display. The Senate Chamber does not currently support video presentation.

Three methods of presentation will be analyzed and coordinated with the Wyoming Legislature, A&I and the project design team in order to determine the most adequate solution(s). Possible display techniques include:

- Large Format Displays: Permanently-mounted, large format, flat panel displays can be used. Due to the size of the space, a multi-display video wall may be required in order to provide adequate viewing from all locations within each Chamber. The location and dimensions of the displays will be coordinated closely with the architectural team to determine if this is a feasible solution that is compatible with the architecture of the room, while still meeting the minimum requirements for sight angles and screen height.
- Large Format Video Projection: If fixed displays are not possible, a video projection system using retractable video screens and high brightness projectors can be used. The locations and dimensions of video projectors and screens will be coordinated closely with the architectural team to determine if this is a feasible solution that is compatible with the architecture of the room, while still meeting the minimum requirements for sight angles, brightness, contrast and screen height. Given the maintenance requirements of video projection systems, a fixed, large format display solution is preferred and recommended over a projection-based system.
- Distributed Displays: Smaller displays can be provided at each desk to provide a close-range view of the presentation materials. This can be through the use of a new, dedicated display or by providing a secondary switchable input to the Member’s own computer display (if applicable). This solution can be provided in lieu of, or as a complement to, a large format display or projection system.

Digital video inputs can include a dedicated presentation computer, as well as a set of input connections on panels at locations to be coordinated with

the design team and the Wyoming Legislature. A connection plate for a document camera can also be provided.

This functionality is not provided by the existing Senate Chamber system, and will need to be reviewed and approved by the Wyoming Legislature.

Video Presentation - Committee Rooms

- Video presentation systems will be provided to allow all present to effortlessly see the video content through the use of permanently-mounted, large format, flat panel displays.
- If a fixed video display is not possible for all or certain rooms due to architecture or room layout, the possibility of using a large format video projection system will be considered.
- Digital video inputs will include a dedicated presentation computer, as well as a set of input connections on panels at locations to be coordinated with the design team and the Wyoming Legislature (for example, at staff and witness locations).
- In addition, capabilities will be provided for wireless delivery of content from user’s devices such as laptops, tablets or smartphones for direct presentation without physical connections. The system will be secure and restricted to each space.

Video Cameras - Chambers

- Permanent HD video cameras will be installed to allow for video capture and distribution. Locations will be identified and selected to provide adequate views of every talker in the room. It is expected that a minimum of 3 cameras will be required.
- The cameras will be equipped with robotic pan/tilt systems allowing them to be controlled by an automated tracking system that will provide a view of the current active talker.
- The feeds from the camera systems will be provided for video streaming, video archiving, and video overflow throughout the Wyoming Capitol campus.

This functionality is not provided by the existing systems, and will need to be reviewed and approved by the Wyoming Legislature.

Video Cameras - Committee Rooms

- Permanent HD video cameras will be installed to allow for video capture and distribution.
- Locations will be identified and selected to provide adequate views of every talker in the room. It is expected that 2 or 3 cameras will be required for each hearing room; typically two for coverage of the dais seats and 1 for coverage of the audience.
- The cameras will be equipped with robotic pan/tilt systems allowing them to be controlled by an automated tracking system that will provide a view of the current active talker.



6.6.7 SCOPE OF WORK: AUDIOVISUAL SYSTEMS (CONTINUED)

- The feeds from the camera systems will be provided for video conferencing, video streaming, video archiving, and video overflow throughout the Wyoming Capitol campus.

Video Streaming and Archival - Chambers

- Video capture and streaming systems will allow all legislative sessions to be streamed to the Internet.
- Redundant systems will be provided for live encoding of the proceedings and distribution to a streaming server designated by the Wyoming Legislature.
- A digital media archival system will allow the encoded proceedings to be stored for future access using smart tagging through metadata, in order to allow for easier search and retrieval of files.

This functionality is not provided by the existing systems, and will need to be reviewed and approved by the Wyoming Legislature.

Video Streaming and Archival - Committee Rooms

- Video capture and streaming systems will allow all legislative sessions to be streamed to the Internet.
- Redundant systems will be provided for live encoding and distribution to a streaming server designated by the Wyoming Legislature.
- A digital media archival system will allow the encoded proceedings to be stored for future access using smart tagging through metadata, in order to allow for easier search and retrieval of files.

Control Systems

Control Systems - Chambers

- Integrated control systems will be included to provide a user-friendly and cohesive control method for the audio and video systems.
- A single user interface will allow microphone control, audio level and mute control, recalling of systems presets, video routing and setup, streaming media control, and all other AV functions related to each Chamber to be executed.

This functionality is only partially provided by the existing systems.

Control Systems - Committee Rooms

- Integrated control systems will be included to provide a user-friendly and cohesive control method for the audio and video systems.
- A single user interface will allow microphone control, audio level and mute control, recalling of systems presets, video routing and setup, streaming media control, and all other AV functions related to each hearing room to be executed.

Voting Systems - Chambers

- The AV design process will include a review of the electronic voting options that have been reviewed by the Wyoming Legislature.
- Any required infrastructure will be identified and included in the designs to enable these systems to be incorporated in the future with minimal impact to the building.

This functionality is not provided by the existing systems.

Equipment Rooms

Equipment Room - Chambers

- Dedicated equipment rooms will be required to house all major components of each Chamber AV system. It is estimated that a minimum of two, full-size racks of equipment will be required in each rack room.
- The AV racks must be provided with clean, dedicated power, and the space must be adequately cooled/ventilated.

Equipment Room - Committee Rooms

- Dedicated equipment racks will be required to house all major components of each hearing room. Ideally, a technical rack room outside but in close proximity to the hearing room will be identified in order to avoid heat and noise issues within the hearing rooms.
- If this is not feasible, an in-room credenza will be used.

Temporary AV Systems

Temporary AV Systems - Chambers

- During construction at the Capitol building, AV systems supporting the Senate and House during legislative proceedings must be provided at the temporary facilities.
- During the design process, and as the final requirements for the permanent systems are defined, the minimum functionality required for these temporary systems will be defined.
- The temporary AV systems will be completely independent of the permanent systems contained in the renovated Senate and House Chambers, and are not intended to be reused for that purpose.

Temporary AV Systems - Committee Rooms

- During construction at the Capitol building, AV systems supporting the Hearing Rooms during legislative proceedings must be provided at the temporary facilities.
- During the design process, and as the final requirements for the permanent systems are defined, the minimum functionality required for these temporary systems will be defined.

- The temporary AV systems will be completely independent of the permanent systems contained in the renovated and new hearing rooms, and are not intended to be re-used for that purpose.

Large Multipurpose Room

Main Requirements, Features and Items to be Defined

The following key-points have been identified as features, requirements and items to review during the DD design phase for the Large Multipurpose Room:

- Furniture and layout of the room will be flexible and could include the capability to divide the space into separate rooms and/or zones.
- The layout of the space will determine the most appropriate microphone setup for the room. It is expected that a combination of wired and wireless microphones will be required to cover the needs of this space. This may include wired microphone connections on panels throughout the space, traditional handheld and lavalier wireless microphones, plus a conferencing style system (wired or wireless) allowing a multi-talker legislative style session to take place.
- Speech and full range audio reinforcement will be provided in the room.
- Audio conferencing will be provided and integrated with the sound reinforcement systems.
- Audio streaming and audio recording can be provided if required for this space.
- The systems will be based around a digital audio network to allow for a flexible distribution method that can be dynamically configured and easily scaled. This will allow for overflow audio distribution and press/media distribution.
- Full featured video presentation will be provided. The use of large format displays and/or video projection will be reviewed and selected according to the architectural characteristics and layout of the space. Video content will include wired and wireless sources, as well as a feed from the CATV system.
- The use of video cameras for videoconferencing and/or broadcasting will be studied to determine if permanent cameras should be installed or connectivity for portable video cameras is preferred for maximum flexibility. This review will include studying the viability of providing video streaming and video recording in this space.
- Integrated control systems will be provided included the ability to control lights (and shades if available and required).
- One or more video displays outside of the multipurpose space can be provided for messaging and scheduling purposes.

6.6.7 SCOPE OF WORK: AUDIOVISUAL SYSTEMS (CONTINUED)

Legislative Conference Rooms

Main Requirements, Features and Items to be Defined

The following key-points have been identified as features, requirements and items to review during the DD design phase for conference rooms within the Legislative space:

- Furniture and layout of the rooms will be flexible.
- Individual microphones will not be required. Larger rooms may require the use of a shared wired or wireless microphone for presentation purposes. In addition, ceiling microphones or a functionally similar alternative may be required for audio conferencing purposes.
- AV sound reinforcement will be provided through the use of ceiling loudspeakers.
- Audio conferencing will be provided and integrated with the sound reinforcement systems.
- Full featured video presentation will be provided. The use of large format displays and/or video projection will be reviewed and selected according to the architectural characteristics and layout of the space. Video displays will be preferred where allowed by size and layout. Video content will include wired and wireless sources.
- Some conference rooms may be provided with videoconferencing capabilities including one or more permanent video cameras.
- Integrated control systems will be provided included the ability to control lights (and shades if available and required).

Legislative Offices

Main Requirements, Features and Items to be Defined

The following key-points have been identified as features, requirements and items to review during the DD design phase for offices within the Legislative space:

- Furniture and layout of the rooms will be flexible.
- Some offices will have the ability to receive audio feeds from either of the Chambers or from hearing rooms. Users will have the ability to select the desired source location and listen using a ceiling loudspeaker or functionally similar alternative.
- Some offices may be provided with a large format display for presentations and with a feed from the CATV system.



6.6.8 SCOPE OF WORK: SECURITY SYSTEMS

Security

Since the Wyoming Capitol is a treasured National Historic Landmark and the functions conducted within the building are of interest to all the citizens of Wyoming, the need to provide reasonable safeguards for people and property is clearly evident. Understanding that the Wyoming Capitol is also the “people’s house,” the results of the security assessment currently being conducted will be balanced with the need to maintain an open and accessible government. As part of the continuing design process, recommended improvements are anticipated for monitoring, communications, and credentialed access. However, due to the sensitive nature of the information identified by the assessment, distribution of the final, detailed report will be appropriately limited.



6.6.9 SCOPE OF WORK: ACOUSTICAL CONTROL OF BUILDING SYSTEMS

Frequency (Hz.)	63	125	250	500	1000	2000	4000	dBA
NC-30	57	48	41	35	31	29	28	40
NC-35	60	52	45	40	36	34	33	44
NC-40	64	56	50	45	41	39	38	49

Figure 6.6.10.1: The Maximum Sound Pressure Levels in Decibels by Octave Band for the Ambient (Background) Noise Level Criteria

Noise And Vibration Control From Building Systems

The following provides guidelines and criteria for control of noise and vibration from building services, important for the comfort of staff and visitors.

Proposed Treatment

Background Noise

Maximum acceptable background noise levels attributable to mechanical equipment are defined in terms of octave band sound pressure levels in decibels (dB) from frequencies ranging from 63 Hz to 4000 Hz. These are expressed in terms of Noise Criteria (NC) ratings.

The maximum Sound Pressure Levels in decibels by Octave Band for the Ambient (Background) Noise Level Criteria are found in [Figure 6.6.10.1](#).

The lower the designation, the quieter the background noise level. In general, spaces where intelligibility of spoken communication is of highest importance will have background noise levels between NC-30 and NC-35.

Typical Ambient Noise Level Criteria (NC) Within the Industry

- Performance theaters: NC-25 or less
- Executive level private offices, churches, high-quality conference and meeting rooms, courtrooms, high-quality hotel rooms: NC-30
- Open plan office areas (higher background noise levels and personal privacy between occupants: NC-35 to NC-40
- Public spaces: NC-40

The list below assigns the range of acceptable NC ratings for specific spaces.

Ambient Noise Level Criteria (NC)

House and Senate Chamber	NC-30
Committee & Hearing Rooms	NC-30
Private Offices (Governor, Sec. of State, Legislative Leadership)	NC-30
Reception Rooms	NC-30
Staff Offices	NC-30 to NC-35
Conference Rooms	NC-30 to NC-35
Open Offices	NC-35
Chamber Lobbies	NC-35
Circulation and Public Areas	NC-40 max.

Mechanical Equipment Vibration Isolation

Interior Mounted Air Handling Units and Fan Coil Units

Garden Level

- Mount on a steel platform.
- Vibration platform is to be isolated from the structural floor by means of neoprene pad and steel shim plates to spread load on the isolator (Mason Industries Type MBSW or equivalent).
- Vibration isolate each unit cabinet from the steel platform by means of neoprene mountings with a minimum static deflection of 0.35” (Mason Industries Type ND or equivalent).
- Locate mounting points directly under steel beams and ground support to optimize stiffness of the platform.
- Isolate fan bases within the air handling units from the unit cabinet by means of steel spring isolators with a minimum static deflection of 1” under actual load conditions. Isolators may be provided by the air handling unit manufacturer, or purchased through a third party vibration isolation vendor and installed by the mechanical contractor.
- Provide neoprene pads (Mason Type MBSW) for air handling units sitting on top of another unit.

Attic

- Support from new steel dunnage structure on spring and neoprene mountings (Mason Industries Type SLR or equivalent) with a static deflection of 2” under actual load.
- Isolate equipment in a manner that keeps the units completely independent of the steel grating walkway structure
- Provide supplementary steel as required to stiffen steel dunnage adequately for proper support, particularly at mounting points.
- Isolate fan bases inside the cabinet from the cabinet by means of neoprene mountings provided by the unit manufacturer.
- This needs to be specifically ordered.

Building -Wide

- Isolate fan coil units by means of spring and neoprene type mountings or hangers as applicable.
- Isolate fan/blower sections from the unit cabinet by neoprene or rubber type mountings, supplied by the unit manufacturer.
- Isolate all piping connections to each isolated unit (2” diameter and above) with a twin sphere flexible piping connector, constructed from neoprene, EPDM, or rubber as required for compatibility with the fluid, temperature, and external conditions.



6.6.9 SCOPE OF WORK: ACOUSTICAL CONTROL OF BUILDING SYSTEMS (CONTINUED)

- Provide control cables as required to prevent axial elongation in the piping.
- Condensate piping may be connected directly to the isolated unit, but should not be hard-connected to the non-isolated structure.
- Provide standard flexible duct connectors at ductwork connections to all air handling units and fan coil units with.
- Install electrical connections to each unit with flexible conduit with sufficient slack so it will not become taut during normal equipment start-up.

Pumps

- Vibration isolate inline pumps are to be by means of spring and neoprene type hangers or mountings, with a minimum static deflection of 1” for pumps up to 30 HP, and 1.5” for pumps 30 HP and greater.
- Isolate floor bases, if applicable, in this manner, or mount to steel rails to allow for isolator mounting.
- Provide snubber bushing or equivalent at large pumps to resist torque on start-up, as determined in subsequent design phases.
- Provide piping connections to each isolated unit with a twin sphere flexible piping connector, constructed from neoprene, EPDM, or rubber as required for compatibility with the fluid, temperature, and external conditions.
- Provide control cables as required to prevent axial elongation in the piping.
- Provide electrical connections using flexible conduit in a slack U-shape.

Piping

- Support chilled water and HVAC piping above 2” diameter within Attic areas from building structure by spring type hangers or mountings as applicable.
- Utilize neoprene or spring-type pipe risers to isolate all large piping in piping chases.

Air Distribution Systems

Fresh Air Inlet and Exhaust Discharge Locations

Locate away from public outdoor areas or to locations where noise can re-enter the building through walls, windows, doors or vents into any publicly occupied areas.

- Avoid discharge and intake outlets close to the building property line to avoid environmental noise issues.

Acoustical Lining

- Provide acoustical duct lining with a 1” thick, 1.5 pcf density fiberglass core with integral coated facing.
- Install lining in the following minimum ductwork and systems:
 - All supply and return ductwork serving House and Senate Chambers and Committee and Hearing Rooms.
 - All supply and return ductwork for a minimum of 25’ from all air handling units and fan coil units.
 - All supply ductwork for a minimum length of 15’ downstream of VAV terminal units.
 - All return air transfer ducts.
- If internal lining is not used, care must be given to reduce all sources of turbulence in the airstream, particularly closer to the terminal device through adjustments such as:
 - location of units
 - sizing of ductwork
 - locations of balancing dampers
 - ductwork configurations serving terminal devices
 - specification of terminal devices.

This may result in increased mechanical system cost to achieve an equivalent noise level.

Duct Silencers

For certain systems, particularly where there is a short run of ductwork back to the fan, a duct silencer may be required to meet the noise criteria. Final determination and selection of silencers will be made when the design is further developed.

Duct Distribution

Costs of noise control devices such as silencers can be greatly reduced through careful attention to duct distribution and locations of duct penetrations. The following guidelines should be considered as the mechanical systems design is developed:

- Maximize duct run between fan and first terminal outlet. A distance of 30’ – 50’ should be taken as a minimum guideline.
- Extend return air duct runs back to the fan unit, especially in noise-critical systems serving Committee Rooms and Conference Rooms. Provide a minimum of 25’ of duct between outlet and fan. Also consider creating branch ducts off of a main return duct to extend the overall length.
- Provide lined transfer ducts in offices where privacy is a concern, extending into corridors. Do not locate transfer ducts between adjacent offices or meeting rooms to prevent crosstalk through the duct system.

- Develop each duct distribution system to be as self-balancing as possible in a “dampers wide open” scenario, meaning symmetrical distribution with branch ducts feeding each supply outlet. Where multiple diffusers feed off a single branch or header duct, utilize static regain methods to equalize downstream air pressure in the duct.
- Avoid running ductwork serving a noise sensitive space directly through an adjacent, noisy space, adjacent office, etc. This is especially important in spaces where privacy is important, including private offices, Committee Rooms, and Conference Rooms.
- Pay close attention to providing gradual velocity transitions to reduce turbulence generated noise.
- Utilize full radiused elbows where possible to reduce turbulence-generated noise.
- Locate primary air balancing devices at major branch takeoffs far from terminal outlets – a minimum of 5-7 duct diameters from the nearest terminal device.

Diffusers, Grilles, VAV Terminal Units, and Duct Velocities

Diffusers and Grilles

All diffusers and grilles should be selected to meet the background noise criteria for the space in which they will be installed.

- Smaller Spaces:
 - Terminal device should be selected taking into account the total number of diffusers and grilles in the space, and using the following formula:
 - $NC \text{ (selection criteria for diffuser)} = NC \text{ Level (of space)} - 10 \times \log (\text{total no. diffusers and grilles})$. This number will provide an NC level required of the diffuser that can be matched to manufacturer’s performance ratings under design conditions.
- Larger Spaces (Committee Rooms and large conference rooms)
 - Diffusers should be selected to meet an NC rating of 6 dB less than the rated NC criteria.
 - Integral dampers in diffusers:
 - These can add 5 to 9 NC over the published performance ratings. These effects are published or can be obtained from the larger manufacturers.

VAV Terminal Units

- Selection:
 - All terminal units should meet the rated NC level of the space it serves, under maximum operating capacity and pressure drop. This should be done using the octave band criteria published



6.6.9 SCOPE OF WORK: ACOUSTICAL CONTROL OF BUILDING SYSTEMS (CONTINUED)

in manufacturer’s catalogs for both radiated and discharge conditions. In general, the radiated levels will be higher. In the case of the Capitol, most if not all VAV units will be located within mechanical rooms where radiated sound levels are of minimal concern.

- Location:
 - If not located with mechanical rooms, VAV units serving spaces like private offices, Committee, Conference, and Meeting Rooms should be located outside these spaces, particularly where video conferencing capabilities are being considered, located in corridors or less critical areas where possible.
- Noise Adjustment Based on Criteria:
 - Fan powered terminal units should not be used in areas with noise criteria of NC-35 or less unless they are located remote (minimum 20’) from the space they serve, concealed above a ceiling, and ductwork downstream is internally lined with 1” thick duct liner insulation.

Air Velocities

- Maximum Air Velocities in Ducted System:
 - Air velocities in ducted systems should not exceed the following:

Location:	NC30	NC35	NC40
Supply and return main ducts outside of space (as long as duct does not terminate with a terminal device)	1800 fpm	2000 fpm	2200 fpm
Main supply and return distribution within space (including above ceilings)	1100	1300	1400
Branch supply and return ducts	800	900	1000
Terminal supply ducts	550	600	650
Return grilles up to 10 diameters from inlet	500	550	600

- Air Velocity Transitions In Ductwork:
 - Make as gradually as possible, especially closer to the terminal duct and outlet.
 - Limit transitions to 1.5:1 within the noise sensitive space, and up to 2:1 closer to the fan unit.
 - After an air velocity transition, provide duct of length equal to 3-5 equivalent diameters so that the airflow velocity profile can be laminar at the entry to the terminal device.

Electrical Systems Noise Control

- Noise generated by electrical equipment is of particular concern because of its pure-tone frequency character. Small and large transformers, relays and ballasts can generate noise that is annoying and may interfere with speech intelligibility and overall comfort.

Vibration Isolation and Location of Transformers

- Locate only in designated electrical rooms not directly adjacent to publicly-occupied spaces. Doors to these electrical rooms should open onto service corridors, not public corridors.
- Locate large transformers (above 50 kVA) on grade where possible, and in locations
- Install floor mounted transformers on 2” to 4” high concrete housekeeping pads, and be vibration-isolated according to the following table:

Size	Mounting method	Isolator	Static Deflection
< 500 VA	All	Neoprene & steel pad	
500 VA – 50 kVA	Floor	Neoprene mounts	
	Suspended	Neoprene hanger	
	Wall	NOT RECOMMENDED	
> 50 kVA	Floor on grade	Spring & neoprene mountings	1”
	Floor above grade		2”
	Suspended above grade		2”

- Make electrical connections to transformers with flexible conduit installed in a slack “U-shape” in sufficient length to not become taut during normal start up or operation.



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Section 7 : Code Compliance

7.1 INTRODUCTION

Code Digest

The applicable codes, as adopted by the State of Wyoming, include the following:

- 2012 edition of the ICC International Building Code (IBC)
- 2012 edition of the ICC International Existing Building Code (IEBC)
- 2012 edition of the ICC International Fire Code (IFC)
- Code for Fire Protection of Existing Historic Structures, NFPA914
- 2012 edition of the ICC International Fuel Gas Code
- 2012 edition of the ICC International Mechanical Code
- 2012 edition of the ICC International Plumbing Code
- 2012 edition of the ICC International Property Maintenance Code
- American Society of Mechanical Engineers (ASME) A17-2010, Safety Code for Elevators and Escalators



Existing Conditions

Means of Egress

- Each floor is provided with a minimum of two means of egress in accordance with the applicable codes.
- Primary means of egress are provided via the existing Monumental Stairs. Exterior fire stairs are available via the House and Senate Chambers and serve as a second means of egress From the Second and Third Floors. The Garden Level and First Floor are provided with direct access to the exterior at multiple points.
- The building is one volume – all interior stairs are open and discharge through the building.
- For the majority of the building, travel distances, common paths of travel, and dead-ends are in accordance with the limitations of the applicable codes. Dead end corridors within the Senate and House Chambers exceed the 35-foot limitation for a nonsprinklered building.
- Exit access for some administrative spaces within the building is through adjacent spaces. These spaces must be unlocked and available for egress.
- Exit signs are provided in some spaces within the building.
- Refer to Section 6.4.1 for roof access, egress, and fall protection for maintenance personnel.

Fire Alarm System

- A manual fire alarm system is provided within the building.
- Pull stations are generally located at exit and exit access doors within the common corridor areas.
- General building area smoke detection is not provided. Automatic smoke detection is provided only at the elevators and cross corridor doors for the function of elevator recall and closing of doors during a fire emergency.
- Bells and horns for occupant notification are generally installed in public and common areas.

Fire Protection System

- No automatic sprinkler system is provided.
- A Class I standpipe system with 2 ½-inch fire diameter fire hose valve outlets is provided in the building. The outlets are located in cabinets around the building.

Smoke Control System

- No smoke control system is in place.

Recommendations

Means of Egress

- Each floor is to be provided with a minimum of two means of egress in accordance with the applicable codes.
- Primary means of egress are to be provided via the existing monumental stairs. Supplemental exit stairs are to be provided as part of the new construction to provide additional exits at the House and Senate Chambers from the upper levels. The Garden and First Floor are provided with direct access to the exterior at multiple points.
- Supplemental exit stairs are to be provided to provide additional exits from the Chambers as the proposed design will eliminate the current second exit (exterior fire stairs) from the space. On the Garden Level, these stairs will serve as a second means of egress from the administrative office suites on the east and west sides of the building.
- The building operates as one volume such that all exits, including the supplemental enclosed stairs, discharge through building. Increased measures of life safety are to be provided to protect the means of egress include smoke control, early detection, and an automatic sprinkler system.
- Access and egress from the Attic Level is to be provided via two existing stairs to the Third Floor.
- Travel distances, common paths of travel, and dead-ends are in accordance with the limitations of the applicable codes.
- The connector to the Herschler building will not serve as a means of egress from the State Capitol
- The building is fully supervised and exit signs will not be provided within the monumental corridors and Rotunda where exits are readily obvious to occupants. Means of egress will be marked within office suites to direct occupants to the new, supplemental stairs. Signs located within the stairs will direct occupants to discharge at the First floor.
- Guards that achieve the code-required 42-inch height are to be integrated into the existing guards in the Rotunda and the House and Senate Chambers balconies. No changes will be made at the Monumental Stairs.
- Refer to Section 6.4.1 for roof access, egress, and fall protection for maintenance personnel.

Fire Alarm System

- Full building smoke detection is to be provided for early notification and protection of building
- Aspirating-type smoke detection is to be provided in architecturally sensitive spaces (monumental corridors, Governor’s office, Ceremonial signing room, Committee rooms, Chambers and the Rotunda). Spot-type smoke detection is to be provided in the remainder of the building. See the included diagrams showing the type of detection throughout the building.
- Point addressable smoke detection will be provided



SCOPE OF WORK: CODE COMPLIANCE (CONTINUED)

- Notification is provided via an emergency voice alarm system with speakers and strobes to provide audio and visual notification. Strobes are to be provided in all public and common spaces. Speakers are to be installed to provide minimum sound level of 15 dB above ambient noise throughout all areas of the building
- Fire Alarm Control Panel, Voice Annunciator Panel, and Aspirating Smoke Detection Panel to be installed in Fire Command Center, exact location still in discussion but likely to be in Herschler Building
- Remote annunciator and control panel, along with manual controls to the voice alarm system to be provided at the State Police desk
- Notification will be designed for general evacuation of the building
- Devices will be least obtrusive so as not to impact the aesthetics or historic nature of the building
- Manual pull stations are not required; only one manual pull station is required at the fire alarm control panel. Accordingly, one will be provided at the State Police desk and in Fire Command Center to initiate building general evacuation alarm
- Fire alarm system to be coordinated with the smoke control system and automatic door closers at base of Monumental Stairs across Main Corridor in Garden Level.

Smoke Control System

- A smoke control system is provided as an increased life safety measure to alleviate the concern of smoke spread through the building due to the “one volume” concept of the building
- Exhaust is to be achieved through three different locations within the Capitol – laylights within the East and West Corridors at the Third Floor ceiling, and the Rotunda. At the upper level of the Rotunda, smoke will be pulled behind the cornice via smoke exhaust fans and discharged through roof smoke vents.
- Supply air for the smoke control system will be provided via four windows at the South end of the building in the Garden Level. Air will be pulled via fans at the Garden Level, tempered, and ducted below grade and below the Garden Level slab where it will be discharged into the Monumental Stair.

Construction

- Any new shaft enclosures are to be constructed of noncombustible material to match the fire-resistance rating of the floor slab penetrated.
- Any through penetrations are to be sealed and fire-safed with noncombustible sealant.

Fire Extinguishers

- Refer to Section 6.6.6.



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Section 8 : Schedule & Cost Estimate

8. Schedule & Cost Estimate

SCHEDULE

Construction is anticipated to commence once the Capitol is vacated, following the close of the Legislative session in March of 2015. Activities related to preparation for construction, as well as some minor selective removal may occur shortly after the session ends. Construction activities, durations, sequences, and the issuance of multiple bid packages, are being evaluated so as to complete construction within a 30-to-36-month construction period.

COST

Senate Enrolled Act 43 allocated \$259,000,000.00 for the State Capitol Building and Herchler State Office Building rehabilitation and restoration project. Of that, the construction cost for the Capitol has been set at \$113,000,000.00. The process for delivering this project on-budget involves the Design Team coordinating with J.E. Dunn, the Construction Manager at Risk [CMAR], and the State of Wyoming, Department of Administration and Information, Construction Management Division [A&I]. During the work sessions, the team discusses and evaluates project components and any impacts on the schedule and budget, of the the various design solutions.





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